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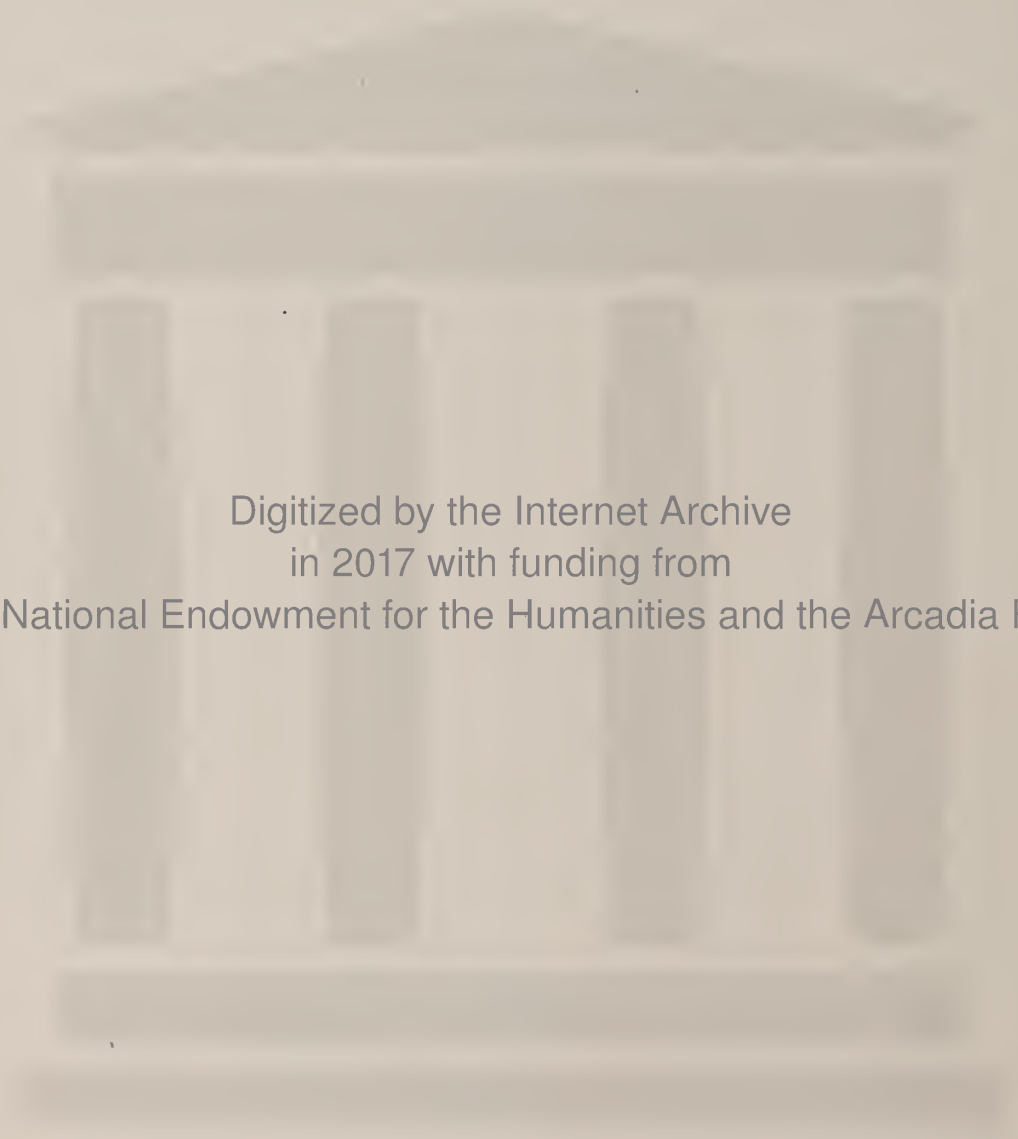

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Virginia MEDICAL MONTHLY

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CONTENTS

Guest Editorial. Walter B. Martin, M.D. ---- 1

Cancer in General Practice. Edwin P. Lehman, M.D., Charlottesville, Va. ---- 3

Benign Nonspecific Neoplasms of the Gastro-Intestinal Tract. J. L. Smoot, M.D., and D. W. Scott, Jr., M.D., Fredericksburg, Va. ---- 8

Hemorrhagic Diseases; Classification, Diagnosis and Treatment. Howard P. Holt, M.D., and Byrd S. Leavell, M.D., Charlottesville, Va. ---- 13

The Successful Treatment of Gold Dermatitis with British Anti-Lewisite: A Case Report. Lloyd F. Moss, M.D., and Elam C. Toone, Jr., M.D., Richmond, Va. ---- 23

Small Bowel Tumors. Richard E. Bower, M.D., and George D. Vermilya, M.D., F.A.C.S., Richlands, Va. ---- 27

Unicameral Cyst of the Calcaneus. Robert G. Dunn, Jr., M.D., Richmond, Va. ---- 30

Cyanosis in Infants from Polluted Well Water. Edwin A. Harper, M.D., Lynchburg, Va. ---- 32

A Case of Pregnancy Complicated by a Uterus Didelphys. Gordon W. Jones, M.D., Fredericksburg, Va. ---- 35

What Are The Movies Doing to Our Young People? E. P. Tompkins, M.D., Lexington, Va. ---- 37

Continued on page 6.

HAPPY NEW YEAR!

January, 1949

criteria in syphilotherapy

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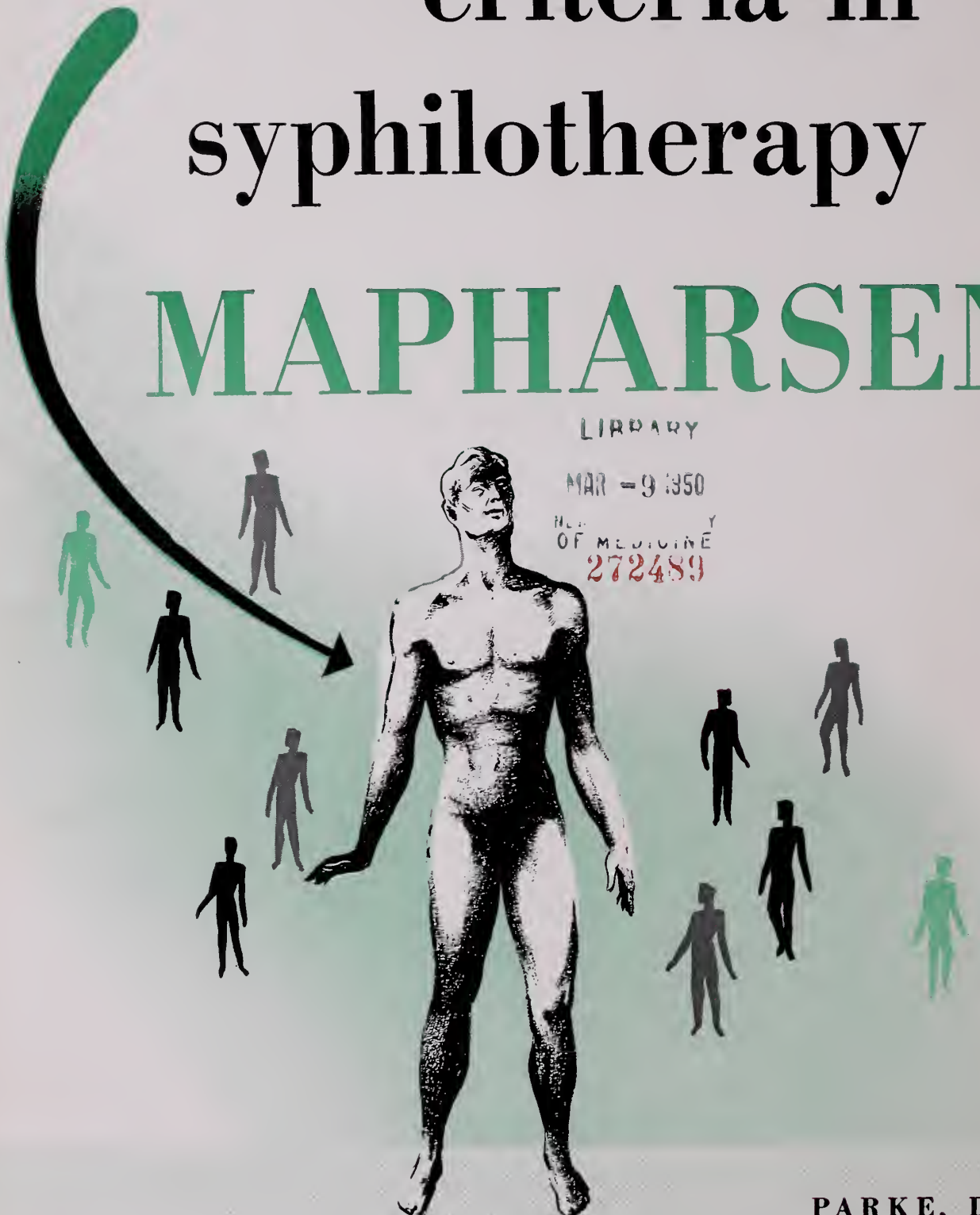

PARKE, DAVI

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GUEST EDITORIAL

Local Responsibility or Federal Control of Medicine

ONE of the results of the recent national election has been to stimulate and encourage the advocates of a system of Federal control of medicine through national compulsory sickness insurance. There is no doubt that some version of the Wagner-Murray-Dingell Bill of the last Congress will be introduced in the next session. However it may be modified in detail, the basic principles of compulsion, wage deduction and Federal control will remain. Such a bill will receive powerful support. Much of this support will come from individuals and groups of good intent who believe that some action is necessary if the benefits of modern medicine are to reach the people as a whole.

The demand for a wider distribution of medical care and of methods for financing the cost are reasonable and should be met, providing these objectives can be accomplished without diluting the quality of medicine or inhibiting the continued advance of the science of medicine. The progress of medicine during the past half century has been outstanding. The benefits that have accrued to the people of this country are evidenced by an increase in life expectancy during the period of 1900 to 1947, from 49 to 67 years. During this same period of time there has been a striking reduction in the mortality rate of many diseases. For example, typhoid fever has fallen from 28.8 per 100,000 people, to .6; diphtheria, from 32.8 to 1; and acute diarrhoea, from 116 to 9. The quality of medical care now received by the people of the United States is better, and the quantity greater than that ever received by the people of any great nation. This has been the accomplishment of a system of free medicine. Such a system should not be put in jeopardy without convincing proof that the substitute offered is capable of producing even greater benefit to the people.

Physicians have no vested rights in medicine, but by reason of their training they are capable of judging the quality of medicine and of evaluating the components of good medicine. It is therefore not only proper but it is our duty to place the facts before the people. We believe that the Federal control of medicine will depreciate the quality of medical care received by the American people. We have ample reason to fear that it will impede the progress of the science of medicine. We believe that the cost of medical care can be financed on a voluntary pre-payment basis. Already over forty-three million Americans are covered by pre-payment hospital or sickness medical care plans. We believe that this is the American way, and is in keeping with the principles of free enterprise. We believe that facilities can be improved and extended without giving control to the Federal Government. We believe that local control in health matters is just as important as local autonomy in the political fields. We believe that the destruction of free medicine will lead to progressive destruction of free enterprise in other professions, and in industry.

The House of Delegates of the American Medical Association has levied an assessment of $25.00 on each of its members, the fund so accumulated to be used in presenting the facts to the American people. They should know the facts, and it is the

duty of every physician to lend his individual support to the accomplishment of this end. It is also their duty, through the local societies and state associations, to aid effectively in implementing the constructive program of the American Medical Association. This is no time for either hysteria or defeatism. We have faith in the American people. We believe that, if they are correctly informed, their judgment will be sound.

WALTER B. MARTIN, M. D.
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Norfolk, Virginia.

EDITOR'S NOTE. Dr. Martin, a former president of the Medical Society of Virginia, is a member of the Board of Trustees of the American Medical Association and has been named a member of the Planning Committee for the campaign being inaugurated by the Association.

Frisco Doctor Presents His Own Program.

In this day and age when everybody is talking himself hoarse about medical plans and programs, Dr. Anthony B. Diepenbrock of San Francisco comes up with his own 13-point health program which, he says, "might be interesting to our colleagues":

1. Continue to sit on your fat derriere and do nothing.

2. Be apathetic and, like 5,000,000 registered Republican voters who failed to vote, do not bother to make your opinion known. If you think, as they did, that your opinion or your vote is not worth anything, the opposition will agree with you and act accordingly, as they have.

3. Write an occasional letter to your congressman, tell him off, and then explain proudly to the interns in the surgical dressing rooms how smart you are and what a stinker your congressman is.

4. Tell everybody you see that the gag is up, and we might as well prepare for the inevitable.

5. Moan and groan and issue explosive and unprintable epithets.

6. Refer to your medical leadership as a group of impotent, ineffective and bumbling ignoramuses.

7. Make speeches before sympathetic lay audiences, and convert those who already believe in free enterprise.

8. Don't bother to tell your county society heads, your state society heads, or your national association heads what you want them to do. Expect them to find a way for you without your guidance.

9. Scream about high medical society dues and forget that our friends in the trades unions demand many times what we pay: in other words, make the situation as difficult as possible, then grumble about it.

10. Oppose any program developed by the majority of your colleagues because it demonstrates your superior wit and your general greatness.

11. Remain superbly and learnedly dignified when Joe Doakes asks why you oppose state medicine. Brush him aside with any insult you can think of. Joe will like you for that.

12. Don't bother to use the selling methods which actually bring messages before the public. Continue to depend on occasional radio feature programs. Billboard advertising, newspaper advertising, national magazine advertising, radio advertising and above all, continuous and daily radio spot programs over national hookups and all such like are too commercial, too troublesome, too expensive and too undignified: don't use them.

13. Above all, disregard the "little guy"—the one with a vote. Tell him nothing; push him around. He doesn't know anything anyhow.

(Secretary's Letter, A.M.A.)

CANCER IN GENERAL PRACTICE*

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Whatever knowledge about cancer the research of tomorrow may bring us, we have today a body of knowledge the immediate complete application of which would modify the picture of cancer control almost overnight. The chief element in this body of knowledge is the single fact that the great majority of cancers could be cured if the growth were removed or destroyed in its earliest stages. There are, of course, two main reasons why all cancers are not so treated. The first, and at present the less adaptable to improved practice, resides in the nature of certain cancers, particularly those not on or near the surface of the body. As a class these tumors present now an insoluble problem, since so many produce no symptoms in the early stages and fail to disturb either patient or physician until they are beyond hope of cure. The second reason is the failure either on the part of the patient or on the part of the physician to suspect possible cancer when symptoms occur. This discussion is concerned with the role of the physician in cancer diagnosis and particularly with that of the first physician to see the complaining patient.

If all patients came promptly to their doctors, and if all doctors demanded complete diagnosis of any lesion which might remotely be cancer, the large group of malignant tumors which are susceptible to early diagnosis could be largely eliminated from the death rolls of the disease. The part played by the patient is primary, a fact long recognized among those interested in cancer control. The lay education program, now in its fourth decade, of the American Cancer Society, formerly the American Society for the Control of Cancer, has had a measurable effect, to be illustrated later, on the alertness of the public to the disease.

The questions may then be asked, what the family doctor is doing to improve his share in the diagnosis of cancer and whether he is becoming alert to the disease at a pace consistent with the growth of public awareness. It is unquestionably true that many individual doctors, perhaps the majority of doctors, are fully alert to the menace of cancer in their daily practices. Exceptions to this generalization, however, are so numerous and so disastrous that one cannot conclude that the body of physicians as a whole is doing a proper job. Those who work in centers devoted to the diagnosis and treatment of cancer deal almost daily with patients in advanced stages of the disease whose plight is entirely the responsibility of the doctor whom they first consulted. It is easy to cite examples without much searching of memory. For months an elderly man was given antiluetic treatment without biopsy for a cancer of the lip which gradually grew until it was beyond either surgical or radiological aid. A lay volunteer worker for the Virginia Division of the American Cancer Society developed a cancer in her breast, discovered as a painless mass. She knew enough to seek immediate advice. Her doctor, an old family friend, laughed lightly and told her not to worry about it. An aged patient found a mass in his abdomen and reported it promptly to his doctor, whose answer was that there was nothing to worry about. Six months later inoperable cancer of the stomach was diagnosed. These are but examples of many others.

Every study that has been made of the causes for delay in the treatment of cancer shows a considerable proportion of cases in which the doctor at least shares the responsibility. In a study at the New Haven Hospital and Tumor Clinic[1] this proportion was 45.2%. At the Memorial Hospital in New York two studies were carried out at an interval of eight years. Pack and Gallo, in 1938,[2] found that there was no delay in the treatment of cancer, a classification including all patients treated within a month of the first symptoms, in 20.7% of 1000 cases. Luck and Robbins, in 1946,[3] found no delay in 29.4% of 500 cases, a significant improvement of nearly nine per cent in the promptness of treatment of cancer during the intervening eight years. Comparison of the factors responsible for delay in the remaining cases showed in the earlier study that the physician was wholly responsible in 17% of the total number of cases and in

*Presented at the Symposium on Malignant Growths, Department of Continuation Education, Medical College of Virginia, March 24, 1948.

the later study in 27.8%. This apparent increasing culpability of the physician was accompanied by an improvement in the patients' behavior from a figure of 44.3% of cases in which the patient was entirely responsible for the delay in the earlier study to 32.0% in the later study. A group in each study in which delay was due both to the patient and the physician need not be presented here. These figures suggest that the physician, rather than improving his index of suspicion of cancer, is relatively losing ground. The improvement in the patients' behavior accounts entirely for the increased number of cases which were treated without delay. It would appear, therefore, that the lay education campaign is effective and that lay knowledge has outrun the knowledge of the physicians from whom patients seek help. It is the universal conviction of all physicians intensively concerned with the treatment of cancer that this is a fact. The urgent problem, then, is how to improve practice so that every patient who seeks help can be given the proper advice and brought to early diagnosis and early treatment; in short, how to ensure full use of the not inconsiderable knowledge of the disease that we possess today.

It will perhaps be useful to seek the reasons for this unfortunate dereliction of the profession as a whole. There are certain obvious factors that can be described. In the first place, there is no doubt that, in the past, medical schools and the authors of textbooks have failed to present cancer to successive generations of medical students in an effective way, effective from the point of view of early diagnosis. Too often cancer is demonstrated to students and described in textbooks only in its late and hopeless stages. Few medical students have graduated without having repeatedly heard, or read in a text the description of orange-peel skin as a sign of cancer of the breast, and without having such a lesion demonstrated. No one would deny that orange-peel skin is such a sign, but teaching is utterly inadequate unless it also points out that orange-peel skin is a late sign and that a patient who presents it is almost certainly beyond the hope of cure. Unquestionably many physicians wait to watch a lump in the breast until this sign or other unmistakable appearances make the diagnosis for him. As a sweeping generalization, subject to exceptions, it can be said that cancer which is obviously cancer on physical examination has almost certainly reached a stage in which hope of cure is slight. Fortunately this approach to cancer in medical education has been recognized as fallacious. No graduate of the last decade or so should fall into this trap.

The second important factor resulting in missed diagnoses of cancer is the failure to perform adequate examinations, a fault of which all of us are at least occasionally guilty. The results are often striking to the physician in the cancer center. Cases are seen of advanced cancer of the rectum within easy reach of the finger in which the finger had never been used. It is deplorable that cases are encountered in which hemorrhoidectomy has been performed when the lesion is just an inch or so above the level of the operative field. Many physicians do not use the speculum in a pelvic examination. There is no reason why every patient who comes into a doctor's office should not have the benefit of a digital rectal examination and an inspection of the nose, the buccal mucosa, the tongue, and the pharynx. In addition, all women should have a careful inspection of the cervix as well as bi-manual palpation of the pelvic organs. None of these examinations require prolonged technical training and the abnormal is usually not difficult to recognize. It is not to be presumed that all physicians who make these examinations will be able to diagnose cancer. They can, however, uncover an abnormality and are then in a position to refer the patient to a specialist for the actual diagnosis. The use of the proctoscope requires some technical skill and has special dangers. It is a skill, however, that is easily acquired by practice and that will save patients when they would otherwise be lost. With careful use the danger is minimal.

A striking contrast has been afforded recently at the University of Virgina Hospital in two cases of carcinoma of the rectum. The first patient, complaining of rectal bleeding, had had digital examination and a barium enema. A few sigmoid diverticula were discovered by the x-ray, and it was unfortunately assumed that they explained the bleeding. It must be remembered that x-ray of the large bowel usually yields no information about the rectum. A proctoscopic examination was not done. Six months later proctoscopic examination revealed a cancer of the rectum, then inoperable, just above the limit of digital examination. Unquestionably it was present six months previously and almost unquestionably it could have been cured

if the physician had completed an adequate examination. A pleasant contrast is presented by the second patient, who also complained of bleeding from the rectum. He was seen by a practitioner in a rural Virginia town, who immediately referred him to another physician familiar with proctoscopic examination. This doctor found a cancer of the rectum ten inches above the anus and immediately put him in the hands of a surgeon. An extremely early lesion was found, thoroughly operable, and with an excellent prognosis. A proctoscope belongs in every practicing physician's office just as truly as does a vaginal speculum. He may not be able to diagnose all lesions, but, again, within the reach of the proctoscope, he can detect abnormal findings.

This matter of adequate general examination brings up the now much discussed problem of the cancer detection center. There is not time for a complete analysis of its place in medical practice. Let us consider briefly two or three points. The medical profession for many years has urged periodic physical examination. It took the menace of cancer to impress on the lay world the desirability of this program. Cancer detection centers have been largely developed, therefore, through lay pressure. It must be noted that the yield in cancer diagnosis has been low, but the yield in non-malignant diagnoses has been relatively high. The cancer detection center has, in fact, made new patients for doctors rather than has robbed them of their practices. The program of cancer detection centers can be considered self-limited. There are not enough doctors available in the country to make possible a program which would give every individual in middle life and later two examinations a year. Perhaps the most important function of the growth of detection centers has been to demonstrate to the profession itself the need for complete periodic examinations. In the past all doctors have not performed this task adequately among their own clienteles. The true detection center is the doctor's office. It is hoped that in time the need for detection centers will disappear with the growing realization of the physician that it is his personal job. Any physician who on a thorough physical examination finds an unsymptomatic lesion which turns out to be cancer has a thrilling experience. He has given his patient a chance for life which might otherwise have been lost, simply by the conscientiousness with which he accepts the responsibility that the patient gives him by coming for examination. These considerations re-emphasize the place that the doctor has in the control of cancer in its early stages.

The third great reason why cancer is so often missed by the practicing physician is the fact that it is a relatively rare disease in family practice. Although it is quantitatively the second cause of death, and although in the surgical services of general hospitals it may run as high as 50% of diseases treated, it is not a common condition for which patients seek advice. It has been said that 90% of all disease that comes to the physician does not need his services, that is, that it is either trivial or self-limited. The remaining 10% present the problems in which the physician's action may determine the outcome: and only a relatively small proportion of these cases are malignant tumors. Statistics on the number of cases of cancer seen in general practice are difficult to obtain. One practitioner in Virginia who was alert to cancer reported two cases of malignant tumor in some 750 new cases seen by him in the course of a year. The closest possible estimate of the total number of new cases occurring each year, an estimate frankly based on inadequate data, suggests that the average practitioner sees about three previously undiagnosed cancers a year.

Since physicians not in special practice see cancer so infrequently, it is no wonder that much of their schoolday knowledge of the disease has grown rusty and that they are tempted not to include reading about cancer in their reading on more frequently observed diseases, reading that they must undertake in order to maintain their knowledge at current levels. This is a situation difficult to solve. The series of articles on cancer now appearing in the *Journal of the American Medical Association,* which were fostered by the American Cancer Society, is an attempt to present in brief form in a readily accessible publication modern facts about cancer. Every doctor should put them on his required reading list.

Another reason for physician error has a psychological basis. The doctor's practice depends on many factors, one of which is the emotional response which he inspires in his patients. He knows the emotional overlay of all disease. He knows that suffering can be diminished or in some cases even abolished by reassurance, which is one of the chief weapons in his armamentarium. His patients are often old friends who look to him for emotional

support as well as physical aid. He cannot afford for the sake either of his patients or of himself to develop a reputation as an alarmist. Furthermore, he wants to spare his patients the expense of unnecessary special study. As a result of these factors it is almost inevitable that his approach to complaints will tend to be optimistic unless the condition is obviously serious on first examination. Many cancers come late for treatment because of this wholly natural but at times disastrous psychological reaction on the part of the doctor.

Finally, one reason why cancer is often missed is the absence of any simple test which would reveal its presence. Too often diagnosis requires expensive radiological study, endoscopic examination, or surgical operation. If it were possible to suspect the presence of cancer on the basis of a test comparable to the tests which enable the physician to suspect the presence of syphilis, much difficulty would disappear. Extensive research is being carried forward along this line, and there are already preliminary studies which suggest promise for the future. It is important for us to know as physicians that none of these are of proven clinical value today in spite of the unfortunate lay publicity that has been given to them.

Having briefly outlined a field in which physician action seems to fall deplorably short of the possibilities for aid to patients that modern medicine should offer, and having partially analyzed the causes for physician failure, we are, perhaps, in a position to suggest ways in which the doctor's behavior can be improved. In the first place, the primary need is alertness to cancer on the part of every practicing physician, no matter how seldom he sees the disease. Whatever the complaint, he must ask himself the question: Can this be cancer? This audience is interested in the problems that cancer presents or it would not be here. It seems therefore superfluous for me to point out that alertness of the physician to the danger signals which have been taught to the lay public as symptoms demanding a physician's attention is fundamental. If we spread abroad the information that unexplained bleeding from body orifices, that any lumps, that chronic cough, that changes in size and appearance of moles and warts, that recent alterations in bowel habits, that unexplained loss of weight, that difficulty in swallowing, that prolonged hoarseness, that failure of ulcers on the skin to heal, that persistent localized pain particularly in bones, are all phenomena that need diagnosis by a physician, it is obvious that the physician must take such complaints seriously enough to carry through his share of the task. It is tragic for patients to present themselves with such symptoms only to be told without adequate examination not to worry. The practicing physician must base his behavior on the realization that reassurance in the face of possible real trouble, even though it be only remotely possible, is a greater breach of his obligations to his patient than failure to reassure when conditions warrant. The approach to the patient's complaint need not be in the least alarmist. The doctor can say, first, that the patient has been wise to come for advice; second, that the chances are great that the presenting complaint does not mean cancer; third, that a gamble to that effect might cost a disastrous price; and, finally, that the probability that the disease is not malignant can be made a certainty by proper study. All this is so simple that it seems hardly to need such emphasis. Let us return, however, to the discouraging experiences that all doctors in cancer centers know. Because of these experiences, it must be emphasized and re-emphasized.

Parenthetically, we must add that alertness to cancer must not be limited by age groups. It is hard for us to realize that the number of deaths from cancer and cancer-like conditions such as leukemia are in children in the neighborhood of five times the number of deaths from poliomyelitis[4]. Insofar as children are concerned, cancer is a greater menace to survival than many of the common diseases. I have seen basal cell epithelioma of the skin in a child of six years and cancer of the rectum at nineteen years, both tumors which are commonly ascribed to the later decades of life. Twenty children under fifteen years of age died in the United States in 1944 of cancer of the pharynx and buccal mucosa[5]. Futhermore, cancer of the breast in women in the twenties is not uncommon.

To repeat, then, the first duty of the physician is to let the thought of cancer pass through his mind with every patient. If any single symptom or sign is presented by the patient which could be explained by the presence of cancer, it is his duty to see that the lead is followed through to final proof or disproof. He must insist that proper study be immediately carried out and that adequate treatment be promptly initiated, usually at some center where the

problems of cancer are met daily. In some instances diagnostic study can be carried out by the doctor himself, particularly in the easily accessible lesions of the skin and mucous membranes. He should know how to perform a biopsy so that the pathologist will have adequate material on which to make a diagnosis. The office biopsy is not difficult. Diagnosis cannot be made in most instances from a particle of material picked from the surface of a lesion. The pathologist must have a zone of normal tissue so that he can tell whether the abnormal cells are actually invasive. Lesions of the lip, of the tongue, of the skin, even of the cervix, can be properly biopsied in the office if the doctor remembers these principles. A drop or so of novocaine is placed in the normal tissue beyond the lesion and a wedge at least two millimeters in thickness is cut from a few millimeters outside the lesion well into its substance and extending through its depth. Such a biopsy may need a suture to control bleeding. If the lesion is very small, such as an early epithelioma of the face, it can be excised with a margin of at least three millimeters on every side and the total specimen sent to the pathologist for diagnosis. In this event he must expect a full report from the pathologist, including a statement of the apparent microscopic margin of normal tissue beyond the tumor.

If the diagnosis is cancer, he should usually advise consultation at a tumor center. An adequate margin for epithelioma is not an adequate margin for melanoma. In any cancer the question of treatment of regional nodes must be answered by an expert. In less accessible cases or when the lesion when first presented is large, the patient is best sent to a cancer center at once. Certainly in all suspected cases of internal cancer first-rate radiological diagnosis as well as possible special procedures such as cystoscopy must be furnished by referral of the patient for specialist care. Primarily, however, the physician must have already carried out in his office all easily available methods of examination already mentioned.

In connection with the office biopsy, one frequent error must be mentioned, namely, the treatment of skin lesions without biopsy. The attempt to destroy skin lesions with caustics, cautery, or diathermy is a mischievous practice. Many a nevus may have become malignant following this type of therapy or was an unsuspected malignancy from the start. Actually a clean excision of such a lesion is less painful for the patient and is the only way of knowing with what one is dealing. Too many patients have been doomed by the physician who treats without knowledge.

Finally, the doctor must recognize fully his responsibility to his patients. It is not inconceivable that an action for malpractice might be sustained in the event that a patient is reassured without proper examination in regard to a lesion later shown to be cancer. Certainly the moral responsibility for such an event is as great as that which is frequently recognized in medico-legal actions. The family physician is the first line of defense against cancer. It is his task to ward off the earliest assault.

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BENIGN NONSPECIFIC NEOPLASMS OF THE GASTRO-INTESTINAL TRACT

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and
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For many years it has been recognized that certain tumor-like formations occur in both the large and small bowel which do not conform to any specific pathology. The literature dealing with this rather vague and nebulous subject has been extensive and has covered a period of time dating back to the last few years of the past century. The origin, like all "origins" in medicine, is a matter of dispute and it is impossible, and irrelevant, to be concerned with who was the first to call attention to this subject in writing. One of the earliest and most forceful writers was Monihan[1] who, in 1907, read a paper entitled "The Mimicry of Malignant Disease in the Large Intestine", in which he reported six cases with a mistaken pre-operative diagnosis. In 1908 A. W. Mayo and Robson[2] detailed the record of eleven abdominal cases in which they had failed to differentiate inflammatory from malignant disease. In 1909 Braun[3] gave a report on the known malignant tumors, and in the same year leDentu[4] described similar cases under the heading "False Cancers and Inflammatory Tumors of the Abdomen". In 1931 Mock[5] gave a full description of this condition which he called "Infective Granuloma". He considered these tumor-like masses to be influenced by a low grade non-specific infection and characterized by a piling up of granulation tissue showing varying stages of necrosis and fibroblastic changes, and true scar tissue and reparative tissue growth. Mock considered the granuloma due to a low grade organism present at the start, and causing interference with the blood supply and resulting tissue changes. Wilensky,[6] in an article which appeared in the *Medical Journal and Record* in 1932, summarized his attitude toward the problem by stating, "Non-specific granuloma of the intestinal tract offers no characteristic clinical concept because the etiology, symptoms and signs are protean and indefinable".

The above introduction will in some small measure serve to show the diversity of opinions set forth concerning granulomatous lesions of the gastro-intestinal tract. Mock, whose article has been cited, has sharply differentiated true granulomas, represented by tuberculosis, syphilis and actinomycosis, from those of unknown etiology, and thus nonspecific lesions. Thus, for the first time some orderliness began to appear and some of the existing confusion was swept away.

The article of most far reaching consequences, and the one which did most to popularize this subject appeared in 1932. In this year Crohn, Ginzberg and Oppenheimer[7] published in the *Journal of the American Medical Association* their monumental and oft quoted description of "regional ileitis", a disease which is more often referred to as "Crohn's Disease". So clear cut was their description and so logical their deductions that this article stands as a masterpiece in medical literature. In the original description it was stated that the condition was limited to the terminal ileum, the process beginning at, and involving in its maximum intensity, the ileocæcal valve. The disease was said to run a relatively benign course and all sufferers who survived operation were restored to good health. In those in whom operation was not performed the lesion tended to slow perforation with resulting adhesions and

Fig. I. Section through the ulcerated portion of the bowel showing ulceration of mucosa, varying stages of necrosis, and a few giant cells. The presence of organisms was not demonstrated.

fistulae formation, a feature of the disease which is today considered nearly pathognomonic. In subsequent articles Crohn[8] repeatedly stressed the frequency of fistulae formation. Colp[9] and Ginzberg[10] stated that fecal fistulae due to regional ileitis may appear following drainage of a residual abscess which in turn may develop months or years after

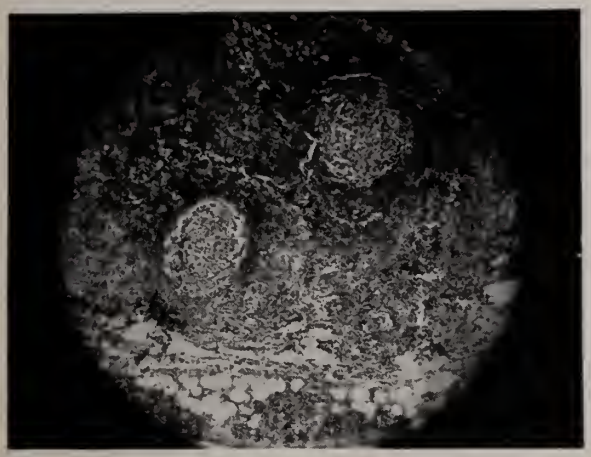

Fig. II. Section of involved lymphnode. Normal architecture of the node is preserved. The peripheral sinuses are filled with lymphocytes and the follicles show hyperplasia and active germinal centers.

the primary operation. Microscopically there are no specific features, but varying degrees of acute and subacute and chronic inflammation in which giant cells of the foreign body type are seen.

Following Crohn's article a voluminous literature on the subject came into being. Since 1932 approximately 160 papers dealing with this condition are listed in the "Cumulative Index". Shapiro,[11] reviewing the literature in August, 1939, tabulated 519 cases of regional ileitis in whom operative procedures had been carried out.

In Crohn's original series there are twice as many males as females. Statistics from the Mayo Clinic[12] reveal their youngest patient was nine years of age, and their oldest sixty-six. Innumerable causes have been set forth and as many discarded for the lack of supporting clinical evidence. Ward and Norrish[13] suggested that disease of the mesenteric glands might be primary and that the ileitis might be due to a lymphatic block. So far as we are aware, however, no pathological changes, such as are seen in this disease, have been reported as occurring in lymphatic adenitis *per se*. Certainly this is not a more advanced stage of the type of mesenteric adenitis, specific or otherwise, seen in children and early adolescents.

For the sake of clarity, then, it might be well to epitomize the three distinct types of granulomatous tumor-like masses which occur in both the large and small bowel, and which fall into distinct and separate classes[14]:

1. Those which occur in association with that class of specific diseases, namely, tuberculosis, syphilis, actinomycosis, Hodgkin's disease and lymphosarcoma. To this might be added the strictly left sided lesions of granuloma inguinale, which

Fig. III. Barium enema showing obstruction at the ileocaecal valve. The contrast media did not enter the ilium in spite of considerable manipulation and palpation.

as far as we are able to ascertain, has never occurred in the right colon.

2. The non-specific granulomata of, and associated with, a presumable low grade infection.

3. Those occurring with true regional or terminal ileitis which is now a definite pathological and clinical entity.

Notwithstanding the articles dealing with this subject, and they are legion, some confusion and obfuscation still persists in that no clear cut differentiation between regional ileitis and benign non-specific granulomata has been established and strictly adhered to. Regional ileitis is a symptom complex characterized by pain in the right lower quadrant of the abdomen, diarrhea, fever, and occasional obstructive phenomena with the formation of fistulous tracts to the nearby viscera or the abdominal wall. The X-ray evidence of the disease is typical and everyone is familiar with the so-called Kantor's "string sign" and the "lead pipe" appearance which this disease gives to the involved portion of the bowel.

As Rosser,[15] in 1945, pointed out, objection has been raised to separating from this granulomatous and migratory lesion a rarer group of massive localized nonspecific neoplasms which occur in the colon and in other portions of the bowel. Crohn[16] believes that although the etiologic agent may be the same, the gross appearance, the anatomic location and dissimilar method of growth and extension warrant their separate consideration.

Localized and non-specific granulomata of this type, while of unknown origin, and while presenting a microscopic picture somewhat resembling regional enteritis, do not cause diarrhea, stricture of an entire segment or fistulous tracts, and they tend to increase in size while only involving one particular localized area of the bowel. It is extremely difficult to suggest a clear cut diagnostic differentiation between cancer and these inflammatory lesions because of such common factors as tumefaction, similarity of roentgenographic appearance, and chronicity. All of the inflammatory conditions, however, are usually associated with some temperature elevation and with an increase in the leucocyte count; anemia is not pronounced, and the tumor is usually more sensitive to palpation. This absence of anemia we consider a very significant point in differential diagnosis since Rankin[17] and others have repeatedly stressed the frequency and importance of severe and profound anemia associated with carcinoma of the right bowel. In a surprising number of individuals who harbor malignancy of this portion of the gastro-intestinal tract this is the presenting symptom. It is quite fortunate that surgical intervention is indicated in each of these conditions, because if the patient has received the extended and adequate preparation now considered essential in large bowel surgery before the abdomen is entered, any discrepancy in the pre-operative diagnosis can be safely corrected and the proper procedure instituted at the time of surgery.

A case has been chosen which illustrates this non-specific granulomatous neoplasm.

A. L. S., a nineteen year old white male, was admitted to the Mary Washington Hospital on 10-30-47, complaining of recurrent attacks of cramp-like abdominal pain, located in the right lower quadrant. Onset was said to have been some three to four months previous, although the patient's mother stated that this pain had been noted on occasion during the last three to four years, but no significance was attached to it because of the infrequence of its occurrence. During the three to four months preceding admission, there was progressive increase both in frequency and severity of his symptoms. He vomited only once, and that was on the night before admission. No change in bowel habits had been noted, nor was there any history of passage of blood or mucus, or of clay colored stools. There had been slight weight loss during the last two months.

Family *history* and past history were non-contributory.

Physical examination:—Temperature 99.2 (M); P. 80; Blood pressure 120/60; Resp. 20. A well developed, thin white male of stated age, appearing moderately and chronically ill. Skin, dry and warm. Eyes, ears, nose, throat, heart and lungs showed no abnormalities. The abdomen, on inspection, showed intestinal patterns in the R. L. Q., and tenderness was elicited on deep palpation in this area. An indefinite mass, apparently about the size of an egg, was felt in the region of the cæcum, but exact delineation was not possible. Gurgling sounds were elicited by pressure over this area. The abdomen was otherwise negative; both inguinal rings were snug and no impulse was noted on coughing.

Laboratory:—Hemoglobin 88% (Sahli); white blood cells 7,800; Polys 79%; Lymphs 31%. On three consecutive days stool examinations were negative for blood, ova, and parasites, Wasserman, and Kahn both reported as negative and no abnormal urinary findings were present.

X-ray:—*A* barium enema demonstrated no abnormalities to the cæcum. The cæcum was very

irritable and spastic. A long appendix was filled and extended medially and upward in the course of the ileum. The ileum was not filled, in spite of considerable manipulation and palpation.

G.-I. series—Severe pylorospasm; otherwise, no abnormalities were demonstrated in the upper gastro-intestinal tract. Serial films of the small bowel showed the barium to pass much more slowly than usual, but there was nothing to suggest either partial obstruction or an inflammatory lesion above the ileo-cæcal region. The presence of a mass in the ileo-cæcal region was suggested by the absence of barium-filled loops of small gut over this area at all times.

Operation was advised and accepted. Accordingly, preparation was made for exploration. Blood typing and matching were carried out, colonic irrigations were done three times daily for four days and sulfasuxidine in the prescribed amount (0.25 gm. per kilo of body wt.) given by mouth. Twelve hours before operation gastric suction was started, and intravenous fluids given to supplement loss through the gastric tube. On November 11, 1947, under spinal anesthesia the abdomen was opened through a right para-rectus incision. Upon examition of the cæcal area the appendix was noted to be normal; the ileum was slightly thickened but the serosa of the bowel was normal in appearance. The cæcum was mobilized by incising the lateral reflection of the peritoneum and a tumor mass was felt which was intrinsic in the wall of the cæcum and mainly in the ileocæcal valve. The mesentery of the ileum and ascending colon was studded with small, discreet, soft lymph nodes, several of which were removed for pathological study. Resection of twelve inches of the terminal ileum and the ascending colon was carried out by division with the actual cautery; the ends of the bowel were closed with a Parker-Kerr stitch and side-to-side anastomosis done. The patient stood the operative procedure well, and his post-operative course was more or less uneventful. The Wangensteen tube was removed on the sixth day and he tolerated a full diet two days after its removal. He was discharged twelve days after operation in an eminently satisfactory condition.

Pathological report of the tissue sent for examination showed some thickening of the wall of the bowel with a heavy infiltration of round and plasma cells, and in some areas acute necrosis. A fibrous tissue reaction was noted, and scattered areas were seen in which giant cells of the foreign body type were present. The architecture of the lymph nodes was preserved, and the peripheral sinuses filled with lymphocytes and polymorphonuclear leucocytes, some of which were eosinophiles. The follicles showed hyperplasia and active germinal centers. Careful search showed no specific organisms.

This patient has been seen twice since discharge from hospital, the last time on January 5, 1948, two months after operation. His progress has been one of tremendous improvement. He has gained sixteen pounds in weight; he is completely relieved of pain and states he "feels fine".

The treatment of this condition has undergone many changes and modifications. Holm[18] in 1933, definitely showed, both operatively and clinically, the side-tracking operations were a constant menace to the health of the patient. Mayo and Judd,[19] writing in the *Journal of the American Medical Association* in 1941, advocated resection of the involved portion of bowel in a two stage procedure. With the refinements in technique and the aid of sulfasuxidine, and the more recent sulfathalidine, as added adjuncts, the concensus is now overwhelmingly in favor of extensive resection in a one stage procedure. The question of the best type of anastomosis is still more or less a personal preference and the one with which the operator is most familiar is entirely suitable. Generally speaking, in dealing with bowel resections the closed type of anastomosis has more advocates and probably more to recommend itself. In the case presented side-to-side anastomosis was done because of the discrepancy of the size of the lumen of the two ends to be united, and because it was technically less difficult. In any event, with proper and extended pre-operative care the mortality is low, and certainly far below the figures set forth in the early reports.

CONCLUSIONS

The essential differences between the pathological and clinical course of regional ileitis and the circumscribed granulomatous non-specific neoplasm of the large and small bowel are pointed out. These differences are so marked and of such magnitude that one is forced to the conclusion that while of a similar microscopic picture the course and behavior of the lesions is sufficient to warrant their being considered as different clinical entities. Regional ileitis

is characterized by fistulae formation, and the disease is not localized to any one segment of the bowel, but is most often seen in two or more areas which are very aptly described as "skip areas". The roentgenographic appearance is typical, Kantor's "string sign" and "lead pipe" being the terms used to convey what is distinctive of the X-ray findings. The granulomata, on the other hand, is the antithesis of this. Admittedly the microscopic appearance is not unlike in the two lesions, but the similarity goes no further. With the granulomatous neoplasms fistulae formation is not common, "skip areas" are not seen, and the changes observed in X-ray examination more nearly approximate those seen in obstructing carcinoma. The changes are localized so that not as great a portion of the bowel is directly involved.

Clinically, the granulomatous neoplasms are most often confused with carcinoma. The absence of anemia in the former serves as one method of differentation. Thorough and adequate pre-operative preparations is necessary in both as it is in any and all large bowel surgery.

SUMMARY

1. A brief review of the literature dealing with granulomatous lesions of the gastro-intestinal tract has been presented that the perplexity and confusion that is so evident in the minds of those who have written about this subject may be made apparent.

2. A case demonstrating the presence of a benign granulomatous neoplasm of the ileocæcal valve is presented, and the treatment outlined.

3. Additional evidence has been presented in the hope of offering some further basis for differentiation of benign non-specific granulomatous neoplasms from other lesions of the bowel which have previously been grouped under the generic term of granulomata, and specifically from that of regional ileitis.

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Blood Plasma With Dicumarol.

Hemorrhage in persons who overreact to dicumarol, a drug which prevents blood from clotting, can be controlled by administering blood plasma, say three physicians from the Departments of Medicine and Surgery, Columbia University College of Physicians and Surgeons, and the Presbyterian Hospital, New York.

Writing in the October 9 issue of *The Journal of the American Medical Association*, Stuart W. Cosgriff, Richard J. Cross, and David V. Habif say that 20 to 25 per cent of persons who receive dicumarol as treatment for blood clots are "hyperreactors."

In these people the usual dose of the drug not only prevents the blood from clotting but also produces a dangerous condition in which hemorrhage may occur. Administration of blood plasma is immediately effective against this condition, the physicians point out.

HEMORRHAGIC DISEASES; CLASSIFICATION, DIAGNOSIS AND TREATMENT*

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Some knowledge of the diseases characterized by abnormal bleeding is important in any type of practice because localized bleeding is frequently the presenting complaint and may be in the nature of epistaxis, gastrointestional hemorrhage, menorrhagia, hemoptysis, hematuria, traumatic bleeding, or a painful joint. The purpose of this paper is to present briefly information which we hope will aid in the recognition and management of hemorrhagic conditions.

Hemostasis in man is a complex process. While our knowledge of the process is incomplete, we recognize three important factors (chart I). These are the vascular system, the blood platelets, and blood coagulation.

Vasoconstriction is a property of all parts of the vascular system and its importance in the control of bleeding from large blood vessels long has been appreciated. More recently McFarlane[1] has maintained that the primary factor causing cessation of capillary bleeding is constriction of the capillaries.

The literature contains many different opinions regarding the nature, name, action and relative importance of the various factors concerned in blood coagulation. For practical purposes it may be considered a two stage process in the first of which prothrombin, in the presence of thromboplastin, calcium, and possibly a globulin substance, is converted to thrombin. In the second stage the thrombin thus formed converts the fibrinogen to fibrin.

The hemostatic seal begins with platelet agglutination which occurs as a result of contact of the platelets with a rough surface. Some of these platelets undergo lysis, thromboplastin is liberated, and blood coagulation occurs with the appearance of fibrin strands. Intact platelets adhere to the fibrin and by agglutination cause the fibrin strands to bend and contract. This produces retraction of the clot.

Recently Quick[3] has reported experimental evidence to support the existence of thromboplastinogen, which is his term for a precursor of thromboplastin.

FACTORS IN HEMOSTASIS

A. Blood Vessels—(Vasoconstriction)
B. Blood Platelets
   1. Agglutination, Adhesiveness, Thrombosis
   2. Blood Coagulation
   3. Clot Retraction
C. Blood Coagulation

Step I Prothrombin CA + { Thromboplastin / Glob. Subs. (?) } → Thrombin

Step II Fibrinogen + Thrombin → Fibrin

CHART I

Quick[2] in his monograph on hemorrhagic diseases termed the platelets the most fundamental factor in hemostasis. He felt that they have the property of agglutination, initiate coagulation by liberation of thromboplastin, cause clot retraction and seem to be responsible for an adhesive factor which anchors the clot. The combination of the last two factors furnishes some degree of vasoconstriction. He believes that this substance is a plasma constituent which is activated by an enzyme, thrombokinase, liberated from platelets undergoing lysis. There are also many other authors[4,5] who do not feel that the platelets are the source of thromboplastin.

Examination of a patient with abnormal bleeding is designed to detect the defect in the hemostatic mechanism and to determine the cause of this defect. It is often possible to realize the first objective, often impossible to attain the second.

The history should emphasize information about

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LABORATORY TESTS IN HEMORRHAGIC CONDITIONS

Syndrome	Defect	Bl. T.	T. T.	Plate	Co. T.	Pr. T.	Cl. R.
Thrombocytopenia Primary Secondary	Plate. Capil.	+	+	—	N	N	—
Pseudohemophilia	Capil. (?)	+	N	N	N	N	N
Allergic Purp. "Sympt" Purp. Infect., Uremia, etc.	Capil.	N	+/N	N	N	N	N
Vit. "C" Defic.	Capil.	N	+	N	N	N	N
Liver Damage Obstr. Jaund., Dicoumarin, etc.	Prothrombin	N	N	N	N	+	N
Hemophilia	Glob.	N	N	N	+	N	N
Fibrinogenopenia Liver Dis. Constitut.	Fibrinogen	N	N	N	+	N	N

N Normal + Increased — Diminished

CHART II

the diet, allergic manifestations, recent infections, recent drugs, exposure to toxic industrial agents or radiation, previous episodes of bleeding and familial bleeding history.

Particularly important in the physical examination are ecchymoses, petechiae, telangiectases, lymphadenopathy, splenomegaly, hepatomegaly, sternal tenderness and jaundice.

Laboratory procedures should include a complete blood count, careful examination of the smear, bleeding time, coagulation time, prothrombin time and clot retraction. The platelets should be counted or estimated and if reduced, examination of the bone marrow is indicated. Examination of the bone marrow is also indicated if there is suspicion of leukemia or aplastic anemia. With the exception of the prothrombin time and examination of the bone marrow, no special equipment is necessary for these tests. Allergic studies, renal function tests or liver function tests may be indicated.

Usually the hemostatic defect is disclosed by tests concerned with the bleeding and clotting mechanism. Results of these tests in various hemorrhagic conditions are shown in chart II. Of course the diagnosis depends on the cause of the defect. For example the results of these tests in various patients with primary thrombocytopenic purpura are identical with those found in thrombocytopenic purpura secondary to leukemia, aplastic anemia, drug toxicity or allergy.

CLASSIFICATION OF HEMORRHAGIC DISORDERS

Defect	Clinical Syndrome
I. Platelets	(1) Thrombocytopenic Purp.—"Primary" (2) Thrombocytopenic Purp.—"Secondary" (Leukemia, Allergy, Aplasia, etc.)
II. Capillaries	(1) Allergic Purp., "Toxic" Purp. (2) Vitamin "C" Deficiency (3) Hereditary Telangiectasia (4) Thrombocytopenic Purp. (5) Pseudohemophilia (?)

III. Blood Coag.

A. Prothrombin	(1) Liver Damage (2) Obstr. Jaundice (3) Hem. Dis. Newlyborn (4) Dicoumarol Therapy
B. Fibrinogen	(1) Severe Liver Damage (2) Constitutional
C. Euglobulin (?)	(1) Hemophilia
D. Heparin Incr.	(1) Heparin Therapy (2) Anaphylaxis

CHART III

With our present knowledge classification of the hemorrhagic disorders according to etiology is unsatisfactory. While not ideal, classification according to the defect in hemostasis helps to systematize our thinking about these diseases and aids in diagnosis. Such a classification is presented in Chart III.

HEMORRHAGIC DISORDERS ASSOCIATED WITH REDUCED PLATELETS

Thrombocytopenic purpura is characterized by spontaneous bleeding into the skin or from the mucous membranes, reduced platelet count, prolonged bleeding time, normal clotting time and poor clot retraction. The tourniquet test is usually positive if active bleeding is present. The anemia and leukocyte count are not out of proportion to the amount of bleeding present and pathological cells are absent from the peripheral blood and bone marrow. The spleen and lymph nodes are not appreciably enlarged.

Many fundamental details of the disease have not been established. The abnormal bleeding has been attributed to a capillary defect and to reduction of the platelets. The cause of either of these defects has not been satisfactorily explained. By direct visualization, McFarlane[2] noted faulty contraction of the capillaries after puncture and felt that this explained the abnormal bleeding. Increased capillary fragility has been demonstrated by the tourniquet test. A "critical" level of platelets has not been established. It is generally agreed that the platelets are formed from megakarocytes in the bone marrow and that in primary thrombocytopenic purpura the megakaryocytes are present in normal

M.B. 71 C.F. CC "Bleeding Gums" 5 Mo.

Hist.: 5 Mo. Bleeding Gums, Increasing Severity
3 Wks. Epistaxis. Purpura, Vertigo, Syncope

Exam.: Nasal, Conjunct., Retinal, Dermal Hemorrhages
Unable to Speak, No Localized Neurolog. Signs.

Date	Hb.	R. B. C.	W. B. C.	Bl. T.	T. T.	Plate	Co. T.	Pro. T.	Cl. R.
5-12-46	7.5	2.5	7.2	15	+	25	12	15/14	0
5-14		2.9				60			
5-16	8.5	2.9	7.8			42			
5-18	7.0	2.6	7.6			30			
5-20	7.0	3.1	6.4	9		30	9		0
5-22	8.5	2.7				30			
5-24	5.0	1.4		12		26	9		

Death

Marrow: Erythroid and Megakaryocytic Hyperplasia

Diag.: Thrombocytopenic Purpura, Primary

Autopsy: Mucosal Hem. Throughout GI Tract, Esp. Stomach. Diffuse Cerebral Hemorrhages.

CHART IV

or increased numbers. The thrombocytopenia has been attributed to excessive destruction by the spleen[6] and to diminished production due to an inhibiting influence exerted by the spleen[7]. It has been our experience that most patients of this type, when abnormal bleeding is present, have evidence of both capillary defect and a platelet deficiency associated with a normal or increased number of megakaryocytes, many of which are abnormal in appearance.

Primary thrombocytopenic purpura may occur at any age, in any race, and in either sex. The onset may be gradual or sudden; the manifestations may be mild or severe and the spontaneous duration of the symptoms may be short or long. Although some individuals may have a single episode of bleeding, in most instances the disease is characterized by a more or less chronic state in which spontaneous relapses of varying degrees of severity alternate with remissions which vary in duration. Some individuals, especially in the younger age group, have spontaneous remissions that are apparently permanent. On the other hand an apparently mild case or one in remission may suddenly develop a fatal or crippling intracranial hemorrhage or an exsanguinating hemorrhage from the G.I. tract. It is this variation in the clinical course that makes evaluation of prognosis and therapy, especially the advisability of splenectomy, so difficult.

Therapy with transfusions, vitamin C, vitamin K, irradiation, and snake venom probably do little beyond giving the patient time for spontaneous improvement to occur. If possible the patient should have advantage of an allergic study that includes skin tests and basal allergy diet. Foci of infection of the teeth, sinuses, etc., should be sought and corrected if possible. If no other cause for thrombocytopenia can be found, the decision regarding splenectomy must be made. This operation is often followed by dramatic cure but it carries a definite risk, especially in the acute stage, and there is no assurance that a disappointing relapse will not occur at any time after splenectomy.

We believe that splenectomy is indicated in chronic or recurrent cases and is best performed during a remission if possible. If the initial attack is mild or improvement prompt, splenectomy may be postponed temporarily or indefinitely in the hope of a spontaneous remission. The patient with severe bleeding in the initial attack or in relapse presents the most difficult problem. We feel that if improvement in the clinical manifestations and laboratory tests does not occur within a few days, it is safer to proceed with splenectomy, being prepared to give numerous transfusions during the operation and in the postoperative period. We have had one patient who required 40 transfusions during a period of a few days who made a satisfactory

B.K.H. 17 W.M. No. 227996. CC "Bleeding"
Hist.: Mumps and Orchitis. 2 Mo. Before Adm.
For 1 Mo. Epistaxis, Bleeding Gums,
Purpura, Hematuria, Melena.
Family Hist., Past Hist., Allergy Hist.—Neg.
Exam.: Num. Ecchymoses, Petechiae, Spleen Palpable

Date	Hb.	R. B. C.	W. B. C.	Bl. T.	T. T.	Plate	Co. T.	Pro. T.	Cl. R.
7-8-46	11.2	3.4	7.0	30+	+	0	8	15/15	0
7-10	13.5	4.1		16+					
7-12				22+		0			
7-15				10					
7-17				23	+				
7-23				30+	+	12			
8-1	13.5	4.8	12.0	18	+	18		15/15	
8-2			Splenectomy		5 Transfusions				
8-3		5-2				60			
8-4						85			
8-5	15.5	5.5		2	0	450			

Marrow: Many Immature Megakaryocytes: 6% Eosinophils
Elimination Diet, Allergy Study—Neg.
Diag.: Thrombocytopenic Purpura, Primary

CHART V

recovery. Our experience has led us to believe that if adequate blood is available practically all of these patients can be carried through the operation and immediate post-operative period, thereby giving them the maximum chance of relief from the bleeding tendency.

Chart 4 shows the course of the disease in an elderly negro woman seen during the first manifestation of purpura. All characteristics of the disease were present. Because of her poor general condition, her age, the difficulty in obtaining blood of the proper type and numerous mild transfusion reactions which occurred, it was decided to give her supportive therapy in the hope of spontaneous remission. Signs of intracranial hemorrhage were present on admission. Despite therapy with blood, vitamin C, vitamin K, liver extract, and other measures, bleeding continued and death ensued. Autopsy revealed widespread intracranial hemorrhage and diffuse bleeding from the mucous membrane of the gastro-intestinal tract. This case is presented as an example of fatal bleeding from thrombocytopenic purpura which was not treated with splenectomy.

In chart 5 are shown data of a patient with thrombocytopenic purpura who has now had a 15 month remission following splenectomy. At the time of operation he was not in complete remission but there was little clinical evidence of active bleeding. Following operation the platelets began to increase within 24 hours and in a few days reached normal limits coincident with return of the tourniquet test and bleeding time to normal.

The data on another patient with thrombocytopenic purpura and a normal leukocyte count is presented in chart 6. In addition to thrombocytopenia this patient had a positive tourniquet test, prolonged bleeding time and hemorrhagic manifestations. Examination revealed a rather firm spleen which was somewhat enlarged and a careful study of the blood smear and bone marrow revealed that the thrombocytopenia was secondary to chronic myelogenous leukemia with a normal total leukocyte count. Splenectomy in such patients generally results in death.

HEMORRHAGIC DISORDERS DUE PRIMARILY TO CAPILLARY DEFECT

A. *Purpura Due to Capillary Defect.* This group is characterized by petechiae or abnormal bleeding associated with normal bleeding time, normal platelet count, normal coagulation time, normal clot retraction and normal prothrombin time. The tourniquet test is abnormal in some of these patients but not in all.

Purpura may occur in many disorders and may be the presenting symptom. It occurs in meningoccemia, Rickettsial infections, scarlet fever, cardiovascular disease, particularly when associated with uremia or bacterial endocarditis, disseminated lupus, vitamin C deficiency and allergic disorders. In most instances the proper diagnosis can be made by clinical observation combined with the proper study of the bacteriology and chemistry. Usually the bleeding in this group is confined to the skin and mucous membranes and is not severe. When

G.P. 64 W.M. C.C. "Hemorrhages"

Hist.: 12 Mo. Ago—Hem. After Tooth Extracted. 4 Mo. Duration Epistaxis. Bleeding Gums, Melena, Petechiae on Extrem. Poor Response to Transfusion, Liver Extr., Folic Acid, Rutin.

Exam.: Pallor, Petechiae, Ecchymoses, Bleeding Gums. Liver 8 CM. ↓, Spleen 7 CM. ↓, Sternum Tender.

Lab.:

Hb.	R.B.C.	W.B.C.	Bl. T.	T.T.	Plate	Co. T.	Pro. T.	Cl. R.
6.6	2.1	6.0	30	+	0	N	15/13	?

Differential Count:

	Bl.	Pro.	Myel.	Juv.	Bland.	Seg.	Lym.	Mon.	Nrc.	Mega.
Blood	1	4	32	1	7	32	15	5	23	—
Marrow	8	12	32	10	19	11	6	0	15	Pres.

Diag.: Leukemia, Chronic, Myelogenous, Thrombocytopenia, Secondary.

CHART VI

allergy is the responsible factor, transudation of fluid and blood into the intestinal wall or periarticular tissue may present a puzzling and complicated picture. Such cases are known as Henoch's or Schonlein's purpura. Fortunately such isolated manifestations of allergy are rare. Most often they are accompanied by more common allergic signs and symptoms.

Therapy in this group is directed towards correcting the underlying defect. Vitamin C and rutin may be of benefit in some cases.

A case of this type is presented in chart 7. This youngster had joint pain and swelling, abdominal pain and vomiting, fortunately associated with some skin lesions. The character of the skin lesions and the character of the swelling of the knee were very helpful in this diagnosis. The disappearance of the lesions on an elimination diet and their reappearance on the administration of tomatoes clearly established it as a sensitivity reaction.

H. K. 2½ W.M. No. 144009. CC "Pain In Abdomen"

Hist.: 3 Wks. Prev.—Pain, Redness, Swelling Knee and Upper Leg of 5 Days' Duration.
2 Wks. Prev.—Vomited Small Amt. Blood
1 Wk. Dur.—Red, Pruritic Papules Legs
1 Da—Rlo Pain, Vomiting, 2 Normal B.M.

Exam.: Red Maculopapular Lesions Legs and Buttocks
No Fading on Pressure; Older Ones Pigmented.
E K G, Sed. R., X-ray Chest—Normal.

Hb.	R.B.C.	W.B.C.	Bl. T.	T.T.	Plate	Co. T.	Pro. T.	Cl. R.
12.0	5.0	11.0	2	0	500	3	15/15	N

Elimination Diet—Lesions Faded.

Tomatoes—In 6 Hrs. Pruritus Erythematous and Purpuric Lesions.

Diag.: Allergic Purpura.

CHART VII

B. *Pseudohemophilia.* Pseudohemophilia is characterized by prolonged bleeding time, normal coagulation time, normal clot retraction, and normal platelet count. The tourniquet test is said to be positive in about half the cases. The abnormal bleeding is generally manifested by ecchymoses, occasionally by hemarthroses, rarely by petechiae. This unusual disease was first described by Von Willebrand[8] in 1926. When he investigated a family of 58 members, 23 of whom had abnormal bleeding. There appears to be a familial factor in the disease which affects both male and female. Either sex may transmit the disease with or without manifestation of abnormal bleeding.

The etiology and pathogenesis are generally considered unknown. Direct visualization of the capillaries in patients with this disorder is said to reveal that the capillaries are distorted in appearance and fail to contract properly after needle puncture. Other authors have not confirmed these observations[9,10]. We have studied the capillaries in two patients of this type and in both, the capillaries appeared distorted and in one capillary contraction appeared to be faulty.

Fortunately pseudohemophilia is rare. Only about 73 cases have been reported in the literature up to November, 1946[10]. Twenty-seven per cent had some familial history of bleeding. Hemorrhage most frequently occurred from the nose, skin, gums and surgical incisions.

Treatment is unsatisfactory. It is confined to the prevention of trauma, reduction of surgical and dental risks to a minimum and the use of pressure and local hemostatics when active bleeding is present. Transfusions are not accompanied by the dramatic cessation of the bleeding that sometimes occurs in patients with hemophilia.

Chart 8 is presented as an example of this rare disease. The family history and laboratory tests are typical.

C. *Hereditary Telangiectasia.* Hereditary hemorrhagic telangiectasis is a rare disease characterized by small localized groups of maldeveloped blood vessels. All tests concerned with hemostasis are nor-

F.S. 3 W.M. No. 133643

Hist: 11 Hosp. Adm. in 3 Yrs. For Bleeding After Slight Trauma of Mouth, Gums, Nose. Ecchymoses Occurred, No Petechiae or Hemarthrosis.
One Sister Died at 9 Mo. With Purp. and Bleeding
4 Other Siblings, Mother and Father Alive, Well

	Bl. T.	T.T.	Plate	Co. T.	Pro. T.	Cl. R.
Patient	27	0	304	6	N	N
Mother	3	0	N	12	—	N
Father	3	0	N	12	—	N

HB. R.B.C., W.B.C., Smears—Normal.

Diagnosis: Pseudohemophilia.
Died Before 4 Years of Age.

Autopsy: All Abnormalities Could be Attributed To Bleeding.

CHART VIII

mal in these patients. However, the bleeding time from the faulty vessels is prolonged. Both sexes are affected and transmit the disease with or without abnormal bleeding.

Bleeding, particularly epistaxis, usually first manifests itself late in the first decade, while visible telangiectases are frequently not present before the third or fourth decade.

Characteristic lesions are small angiomata which most usually occur on the nose, mouth, face or neck.

Since the clotting mechanism is normal, treatment is confined to local pressure or cautery when active bleeding is present.

HEMORRHAGIC DISORDERS ASSOCIATED WITH FAULTY BLOOD COAGULATION

A. *Hemophilia.* Hemophilia is a blood dyscrasia generally familial in nature which is confined to males and transmitted by females. Thus the sons of an affected male are normal and do not transmit the disease, while the daughters are clinically normal but are capable of transmitting the defect to their sons and the recessive characteristic to their daughters. Although it is theoretically possible for hemophilia to occur in females if the hemophilic patient marries a hemophilic carrier, Wintrobe states that no authentic case of a female bleeder of the hemophilic type is known.

Hemorrhage manifests itself early in life and occurs in response to trauma which at times is quite slight. Bleeding may occur in the subcutaneous tissue, muscles, joints or mucous membranes of the nasopharynx, gastro-intestinal tract or genito-urinary tract. Some joint deformity is nearly always present in the hemophiliac of long standing. The diagnosis can be established by laboratory procedures. An abnormally long coagulation time is characteristic but there is marked spontaneous variation in the result of this test from time to time. Although the blood may not coagulate for hours, when clotting has occurred, clot retraction is normal. Bleeding time, prothrombin time (Quick method), tourniquet test and platelet counts are normal.

Numerous theories have been advanced to explain the faulty coagulation of the blood in patients with hemophilia. One is the conception that the platelets in this condition do not disintegrate normally and coagulation fails to occur because of the lack of active thromboplastin. This theory is based on the observation that the platelets are normal in number. Whereas the addition of calcium, fibrinogen or prothrombin does not affect coagulation, the addition of thromboplastin reduces the coagulation time to normal. A recent investigator[3] has concluded that the platelet is the source of an enzyme which activates the precursor of thromboplastin, which is a plasma constituent. The idea that the platelets do not disintegrate normally is consistent with this new conception. Studies by other authors[12,13,14] have indicated that the factor deficient in hemophilia is a plasma component and that it is most abundant in Fraction I[14,15] of the plasma proteins. This substance is commonly referred to as the "globulin substance".

Treatment of hemophiliac bleeding consists of supplying this globulin substance by means of plasma, transfusions, or more concentrated preparations. This concentrated "globulin substance" is still in the experimental stage and is not available to the general public. Good reports of the use of this substance locally and parenterally have been made[12,13,14]. We have had no experience with the use of this preparation.

B. *Prothrombin Deficiency.* Prothrombin deficiency is characterized by abnormal bleeding associated with a prolonged prothrombin time. The bleeding time, clotting time, clot retraction, platelet count and tourniquet test are normal.

The deficiency arises as a result of failure of absorption of vitamin K in optimal amounts from the intestine or as a result of hepatic damage sufficient to reduce prothrombin formation even though

vitamin K may be present in optimal amounts. Similar deficiencies have been reported in some cases characterized by severe diarrhea and there have been reported a few cases of unexplained prothrombin deficiency of the so called "constitutional type". Quick[2] has pointed out that abnormal bleeding rarely occurs until the prothrombin level falls below 20 per cent of normal. Treatment consists of efforts to correct the underlying disease and administration of vitamin K and whole blood.

The findings in a patient with liver disease associated with prothrombin deficiency are presented in chart 9. Further evidence of liver damage is given by alcoholic history, splenomegaly, hepatomegaly, edema of the feet and results of the other liver function tests. Many spider telangiectases were present on the face, trunk and extremities. Therapy was directed toward improving liver function and consisted of high protein, high carbohydrate, low fat diet and large amounts of vitamins.

G.W.L. 45 W.M. CC "Nose Bleeds" 3 Yrs.

Hist.: Bled Freely All His Life, As Did Twin Brother.
Epistaxis Hemoptysis Hoarseness Incr. 3 Yrs.
Hematemesis and Tarry Stools 6 Wk. Ago.

Exam.: Marked Palmar Erythema, Hepatomegaly, Splenomegaly
Innum. Spider Telangiectases Trunk Face Extrem.

Hb.	R.B.C.	W.B.C.	Bl. T.	T.T.	Plate	Co. T.	Pro. T.	Cl. R.
12.2	3.9	8.0	4	+	300	20	22/15	N

Smear: Normal Except 11% Monocytes

Ceph. Floc.	3+	Ict. Index	14
Brom. Sulph.	45%	Retics.	1%
Protein	6.8	Hematocrit	38

Diag: Portal Cirrhosis.

CHART IX

C. *Fibrinogen Deficiency.* Abnormal bleeding may be associated with a prolonged coagulation time and low fibrinogen content of the blood. Such a condition is unusual but may arise in the presence of severe liver disease.

A very rare condition known as constitutional fibrinogenemia has been reported a few times in the literature[16]. In this rare condition the blood fails to coagulate. It may be differentiated from hemophilia by the fact that in hemophiliac blood, coagulation is delayed but does occur and can be accelerated by addition of thromboplastin. The addition of thromboplastin will not cause coagulation of blood in which fibrinogen is absent. Strangely enough, some of the cases of afibrinogenemia have survived until adult life. We have not recognized any instances of this rare disorder.

Summary and Conclusions

1. A classification of the states characterized by abnormal bleeding has been presented.
2. Our present concept of these states, differential diagnosis, and treatment is discussed briefly.
3. Although our knowledge of the hemorrhagic diseases is incomplete, usually the correct diagnosis can be made with the aid of procedures that are relatively easy to perform and interpret even though the mechanisms involved are complex and poorly understood.

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DISCUSSION

DR. JULIAN R. BECKWITH, Clifton Forge: This is certainly a concise valuable review which gives a lot of useful information in a short space. The mechanism of blood clotting is clearly reviewed and the classification of hemorrhagic disease given is one that should be very helpful, particularly when used in conjunction with the table of laboratory tests for working out a given case with hemorrhagic manifestations.

I should like to comment briefly on several points: First, thrombocytopenic purpura. It has also been our experience that the question of splenectomy is difficult to decide; that is, which cases should have splenectomy and when it should be done. The patient who is doing poorly appears to need a radical procedure but looks as if he cannot survive it, while with the patient who is in remission and doing well, one hesitates to advise a serious abdominal operation such as splenectomy. However, individuals who have chronic idiopathic thrombocytopenic purpura and who have had one or more severe crises should very probably have their spleens removed. This is particularly true for females. The crux of safety probably lies in having plenty of blood available during and after the operation, as so well brought out by Dr. Holt.

Second, I should like to ask Dr. Holt about the value of rutin in hereditary hemorrhagic telangectasia. We have one case who is typical and another who has a number of telengectasic areas on the skin and a history of recurrent episodes of gastro-intestinal hemorrhage.

Third, dicumarol therapy has recently been used a great deal in thromboembolic disease and to a lesser extent in coronary thrombosis with myocardial infarction. We have had the experience that occasionally it is very difficult to produce an effect on the prothrombin time by the administration of the usual dose while at other times this same dose will produce marked lengthening. I should also like to ask what Dr. Holt and Dr. Leavell consider a safe, yet therapeutic level for the prothrombin time.

DR. EDWIN P. LEHMAN, Charlottesville: No more difficult problem is faced by the surgeon than the choice of time for splenectomy in thrombocytopenic purpura. One always hopes that bleeding will cease and that splenectomy can be done in the interval between crises. With modern advances in anesthesia and the support of the patient on the operating table, particularly with transfusions, it might be expected that immediate operative death from splenectomy even in the presence of active hemorrhage should not occur. There is a definite tendency toward operation during the crisis when it becomes certain that the bleeding episode is a major one. I believe that this tendency is justified and that we can expect with adequate transfusions to carry these people through not only the operation but the immediate postoperative period in a considerable proportion of cases until the effect of the splenectomy is established. It does not seem justified at the present day to allow persons to bleed to death while waiting for what has traditionally been considered the optimum time for operation.

DR. HOLT, closing discussion: We have had very little experience with rutin and there are only a few reports in the literature concerning its use. Judging from information in these reports and from descriptions of the pathological defect of familial hemorrhagic telangiectasia, I do not believe that rutin will be of much benefit, if any, in this disease.

We have had experiences similar to those of Dr. Beckwith with the use of dicumarol. However in reply to his question we consider a prothrombin time in the neighborhood of 24 to 30 seconds with a control of 12 seconds to be a safe and effective prothrombin level with dicumarol therapy

In relation to this question, I would like to mention a recent report by Dr. E. V. Allen, *et al,* on the use of dicumarol in more than 2,000 patients in the Mayo Clinic. In their discussion of the dose of dicumarol they mention the confusion which exists over the terms of "prothrombin time" and "prothrombin percentage". They state that there is no linear relationship between these terms. They have found that a prothrombin percentage within the range of 10 per cent to 30 per cent has been safe and effective.

Prothrombin "time" can be converted to prothrombin "percentage" or vice versa only by use of a graph prepared by plotting the prothrombin times of known serial dilutions of normal plasma with the dilutions which are expressed as percentage of prothrombin. The normal undiluted plasma is considered to be 100 per cent. The prothrombin time for normal plasma may vary from 12

to 19 seconds. This normal variation is due to difference in lots of thromboplastin used in the determinations.

For illustration a prothrombin time of 35 seconds with a normal control of 12 seconds does not have the same significance as a prothrombin time of 35 seconds with a control of 17 to 19 seconds. The prothrombin percentage of the first example may appear to be about 33 per cent and the second, about 50 per cent. However, when properly calculated from a graph these are about 12 per cent and 20 per cent, respectively.

Reports can be standardized and some confusion avoided by use of prothrombin percentage in reports by all laboratories.

Floral Eponym

SHORTIA GALACIFOLIA—GRAY

CHARLES WILKINS SHORT, 1794-1863

THIS plant which Dr. Asa Gray pronounced "perhaps the most interesting plant in North America" has a particularly personal interest for me, since the material that was the basis for this sketch was loaned to me by Mrs. John W. Price, Jr., of Louisville, a great granddaughter of Dr. Short, and I was privileged this Spring to see this rare plant growing in Dr. William T. Sanger's lovely woods garden. Shortia is a genus consisting of two species of low growing evergreen herbs, which are natives of North and South Carolina and of Japan. How this plant was discovered by Asa Gray in the unnamed section of the Michaux herbarium in Paris and how Dr. Gray named it for his friend, Dr. Short, is an interesting story as told by Charles F. Jenkins in the Arnoldia (2:13,1942). André Michaux discovered the plant in the high mountains of North Carolina in December 1788. Dr. Gray searched in vain for a living specimen for more than forty years. It was not until May 1877 that the plant was rediscovered on the banks of the Catawba River near Marion, N. C. Since then it has been found in many places in the western parts of the Carolinas. It usually is found growing on steep banks in the shade of rhododendrons or tall kalmias.

Charles Wilkins Short, a native of Kentucky, graduated from the University of Pennsylvania in 1815, his thesis being "The Virtues of Juniperus Sabina". While a student in Philadelphia, he became the favorite of Caspar Wistar. He first located in Hopkinsville where, as Kelly expressed it, "he gathered patients and plants". In 1828 he and John Esten Cook founded *The Transylvania Journal of Medicine.* Later he was professor of materia medica and medical botany in Transylvania University where Benjamin W. Dudley and Daniel Drake were his colleagues. In 1837 on account of faculty squabbles, he and Drake went to the University of Louisville. Twelve years later he retired to "Hayfield" five miles out of Louisville to enjoy "an elegant leisure" in his herbarium. Short's writings were almost entirely botanical and he carried on an extensive correspondence with botanists on both sides of the Atlantic. According to Kelly *(Some American Medical Botanists)* other plants besides *Shortia galacifolia* were named for him: *Vesicaria Shortia, Phaca Shortia, Astor Shortia,* and *Carex Shortia,* but only the *Astor Shortia* appears in the garden dictionaries and cyclopedias of today.

THE SUCCESSFUL TREATMENT OF GOLD DERMATITIS WITH BRITISH ANTI-LEWISITE: A CASE REPORT*

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It is the opinion in many of the large arthritic clinics of this country that gold therapy judiciously used and combined with general supportive measures offers the best therapeutic approach to rheumatoid arthritis[1,2,3,4].

Because of the high incidence of toxic reactions reported (10% to 45%), there has been a hesitancy on the part of many physicians to employ this useful but potentially dangerous drug. Some of the more serious reactions encountered during gold therapy have been acute yellow atrophy of the liver, agranulocytosis, aplastic anemia, severe exfoliative dermatitis, ulcerative enteritis, and purpura hemorrhagica. Fatal reactions have been reported in as high as 3% of the cases treated but recently under more careful management, this has been reduced to less than .5%[2]. Many types of skin reactions other than exfoliative dermatitis have been reported following gold therapy. These include herpes, leukoplakia, lichen planus, papular eruptions, morbilliform rash, erythema nodosum, and folliculitis[2]. Most of the milder forms of rash have usually disappeared spontaneously within several weeks following the discontinuance of the drug.

Recently there have been reported in the literature several cases of untoward reactions to gold therapy successfully treated with British anti-Lewisite (B.A.L.)[5,6,7,8,9]. This drug was developed during the last war as an antidote to arsenic which was the principal toxic agent of many poisonous gases. It has also been used extensively and successfully in the numerous manifestations of arsenic intoxication arising from other sources such as that encountered in anti-luetic therapy. Further studies have demonstrated its value in acute systemic mercury poisoning[10].

The toxic action of arsenic has been explained by demonstrating that arsenic combines with the sulfhydryl (-SH) compound in the tissues and prevents these compounds from taking part in the essential oxidation and reduction processes of tissue metabolism. British anti-Lewisite was found to have a greater affinity for the arsenic than the sulfhydryl groups and to form with it a more stable compound, thereby releasing the sulfhydryl groups to carry on their vital enzymic action[11].

Because of its successful use in other heavy metal poisoning, British anti-Lewisite was used in gold toxicity and has been successful in the majority of cases so far reported.

The following is a case report of a patient with advanced psoriatic rheumatoid arthritis, who, after showing a good response to gold therapy developed a toxic dermatitis which was treated successfully with British anti-Lewisite (B.A.L.):

CASE REPORT

This 51 year old white male was admitted to the Veterans Administration Hospital, Richmond, Virginia, on November 1, 1946, complaining of arthritis of 14 years' duration. His history revealed that he was well and working as an auditor until 1932 when he developed pain, swelling, heat, and redness of his left ankle. This subsided spontaneously. Following this, the left knee and ankle became swollen and painful. For the next 12 years the patient had numerous exacerbations and remissions of his arthritis, always involving his left knee and ankle. He was hospitalized on numerous occasions and treated with heat and salicylates. Between attacks, the patient was able to work but noticed increasing stiffness and progressive enlargement of the left knee. In the spring of 1945, the patient developed an infection of the nails of his right hand and right foot. The arthritis of his left knee and ankle became much worse at this time. He was hospitalized and treated for a "fungous infection" of his nails and arthritis. He became progressively worse and by July, 1946, there was involvement of the right knee, both elbows, and the

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right shoulder. As the arthritis became worse, there developed oval areas of scaly red rash on both knees, the forehead, and buttocks. The patient lost weight, from 160 to 111 pounds. He then applied for admission to this hospital.

Physical examination on admission revealed a thin, emaciated, pale, poorly nourished white male unable to walk because of severe flexion deformities of the knees and appearing chronically ill. Temperature 100°F, pulse 100 per minute, blood pressure 120/70, and weight 115 pounds. There was a pallor of all mucous membranes. The skin revealed dry, reddish, oval patches covered with whitish, silvery scales located on the forehead, elbows, knees, and both buttocks which were typical of psoriasis. The fingernails and toenails were brittle, very pitted, crumbling, and deformed. Surrounding the nails, the periungual tissue was red, swollen, and pus could be expressed on pressure. Both elbows were slightly swollen, warm, and extension was limited to about 150 degrees. There was only slight discomfort on extreme motions of the wrists but no heat, swelling or deformity. Both knees were very much enlarged, warm, and painful on movement. Motion of the left knee was limited from 85 to 115 degrees and the right knee from 65 to 175 degrees. There was marked muscle atrophy of both the lower and upper extremities and both ankles were moderately enlarged and stiff. Examination of the spine was essentially negative and the chest expansion was two inches. Physical examination of the head, neck, chest, heart, abdomen and the nervous system was negative.

Laboratory—Blood: Hemoglobin 7 gm., red blood cells 2,400,000, white blood cells 7,700, polymorphonuclears 66%, lymphocytes 28%, monocytes 6%. Sedimentation rate 21 mm. Hematocrit 24. The Kahn test was normal. Urinalysis: Clear, amber, albumen negative, sugar negative, 1-3 red blood cells, 3-5 white blood cells, specific gravity 1.015.

X-ray: "Examination of the spine (A-P and lateral views) from the first cervical down to and including the sacrum shows a loss of the normal lordotic curve of the cervical spine. Aside from a moderate degree of osteoporosis of all the bones, no abnormality is noted. Left hand: A marked degree of osteoporosis of all the bones is noted. There is a fusiform swelling of a moderate degree in the region of the proximal interphalangeal joints of all the fingers. Roentgen appearance is that of rheumatoid arthritis. Right hand: Changes such as described in the left hand are present here. Left knee: A moderate degree of osteoporosis of all the bones comprising the joint is noted. A moderate soft tissue swelling is present about the entire joint as well as in the joint proper. There is evidence of erosion of the bone on the lateral and mesial surfaces of the head of the tibia just below its articular surface. An irregular calcific shadow is seen just below the posterior border of the head of the fibula, which is probably within the joint proper. The condyles of the femur show irregularity of all the surfaces as does the patella."

For the first four months of hospitalization, therapy was directed toward improving the nutrition and general well being of the patient. He received a high protein, high caloric, high vitamin diet, supplemental vitamins, iron, crude liver extract, analgesics for discomfort, and a 500 cc. whole blood transfusion once a week. The psoriatic lesions with secondary infection were treated with wet dressings of 1:2000 bichloride of mercury solution and penicillin, 30,000 units every three hours for five days. This was followed by crude coal tar ointment and ultraviolet light. In spite of therapy and correction of the anemia, the arthritis became progressively worse, especially in the hands and wrists. The metacarpophalangeal and proximal interphalangeal joints of both hands became swollen, stiff, hot, and painful. There developed atrophy of the interossei muscles and typical ulna deviation of the fingers and also a pronounced flexion of the distal interphalangeal joints with hyperextension of the proximal interphalangeal joints of the third, fourth, and fifth fingers of the left hand. X-ray showed additional narrowing of the joint spaces and osteoporosis.

On February 28, 1947, sodium aurothiomalate (myochrysine) therapy was initiated. He received 10 mgms., intramuscularly once a week for two weeks. There were no untoward reactions and the dose was increased to 25 mgm. weekly for two additional weeks and then increased to 50 mgm. once a week. A complete blood count, sedimentation rate, and platelet count were done once a week, and a urinalysis twice a week. Transfusions and general supportive therapy were continued. Posterior plaster splints were applied to prevent further flexion

deformity of the knees but because of the severe pain and discomfort caused the patient, this had to be discontinued. Dry heat was given to both knees daily by use of the heat cradle.

There were remissions and exacerbations of all the joints involved but the exacerbations became milder and shorter and the remissions longer. The patient developed a sense of well being and began to get up in a wheel chair and be about the ward. By June, 1947, both knees had become much smaller and appeared quiescent. Physiotherapy, consisting of heat, massage, and passive motion was started. Motion of the right knee increased to 180 degrees and the left knee to about 130 degrees, and pain on motion became much less in the knees and hands. There remained the residual deformity of the hands and feet. The sedimentation rate remained elevated to between 20 and 32 mm. per hour.

Co-existent with the joint improvement, there was a very marked improvement in the psoriasis. At this time, the patient was also receiving "Sas-Par" (Bischoff). The lesions on the forehead, knees, and elbows disappeared. Those on the buttocks became much less and the nails improved to a striking degree.

On August 10, 1947, the patient noticed pruritus of the lower abdomen, inguinal folds, and upper thighs. The next day, a fine maculo-papular rash was noticed starting on the lower abdomen. He had received 890 mgm. of myochrysine and the drug was discontinued at once. By August 15, 1947, the pruritus had become intense and the rash had spread up over the abdomen to the flexor surfaces of both arms and down over the upper thighs. Some papules had developed pustular crusts. British anti-Lewisite (2,3 dimercaptopropanol, B.A.L.), 10% in peanut oil, was given in doses of 150 mgm. four times a day. There was relief from the pruritus and on August 17th, the dose of B.A.L. was reduced to 150 mgm., three times a day. The rash was fading rapidly and on August 18th, the dose of B.A.L. was reduced to 150 mgm. twice a day. On August 19th, there was an exacerbation of the rash at the original sites and it spread also to both axillae and pectoral folds, across the chest and down the thighs. The pruritus again became intense. The dose of B.A.L. was increased to 150 mgm. three times a day for eight days. The pruritus ceased and the rash gradually faded, completely disappearing on August 30th, 20 days after the onset and 15 days after beginning therapy with B.A.L. There has been no recurrence since the drug was discontinued.

While receiving the B.A.L., the patient complained of anorexia and a bad taste in his mouth and there was an odor of the drug on his breath and body. No other reactions were noticed and these all disappeared promptly when the B.A.L. was stopped.

About five days after the B.A.L. was discontinued, there was an exacerbation of pain, swelling, and heat of both knees and both wrists. Concomitantly with the exacerbation of joint involvement. there was a recurrence of the psoriatic lesions on the left knee and palms of the hands.

COMMENT

Statistics have shown that the association of the psoriasis and rheumatoid arthritis is of real significance and more than a chance occurrence. Dawson[12] reported an incidence of 2.6% in 1,000 cases of rheumatoid arthritis as compared with a much less incidence in a large number of cases of osteo-arthritis. Bauer[13] reported 2.7% of his patients with rheumatoid arthritis had psoriasis as compared to .7% in a similar number of controls.

Whether there is some factor of common etiology is a matter of conjecture, since the etiology of both diseases is unknown.

This case followed the pattern of many other cases reported in that the exacerbation of the arthritis was accompanied by exacerbation of the psoriatic lesions and as the joint manifestations improved under therapy, the psoriasis improved also.

The rapid fading of the toxic dermatitis under B.A.L. therapy is very encouraging. This case and other reported cases suggest that this drug has definite value as an antidote in this and other heavy metal poisoning.

SUMMARY

1() A case of toxic dermatitis from gold is presented which was treated successfully with British anti-Lewisite (B.A.L.).

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Women Past 49 Respond Best To Treatment For Cancer of Cervix.

Drs. Harry H. Bowing and Robert E. Fricke of the Mayo Clinic, in July 10 issue of *J.A.M.A.*, state that women past 49 respond more favorably to treatment for cancer of the cervix than do younger women, based on a study made of 3,798 patients at the clinic from 1915 through 1944.

Women 49 or older responded better to all types of treatment, except that younger women were more able to withstand the effects of surgery.

Twenty-nine per cent of the women between the ages of 30 and 49 who were treated before 1940 and who were traced by the physicians were living five or more years after leaving the hospital, while in the 40 to 69 group, nearly 37 per cent were living five or more years after leaving the hospital.

The importance of early treatment, systematic examination after treatment, individualized therapy, and the harmful effects of treatment by inadequate methods were also emphasized in the study. Seven types of treatment were used, the type being determined by the stage of the disease, the patient's condition and previous treatment, and other factors: (1) Radium therapy (2) Roentgen therapy (3) Surgery (4) Surgery, radium therapy, and roentgen therapy (5) Combined radium therapy and roentgen therapy (6) Surgery and radium therapy, and (7) Surgery and roentgen therapy.

Combined methods are often more successful than any method used alone, the study points out.

The importance of early treatment is shown by the fact that among the patients at the clinic from 1915 through 1939, 65 per cent of those treated in an early stage of the disease and who were traced by the physicians were living five years after leaving the clinic.

Joseph Lister and Socialized Medicine.

Following the introduction of the National Health Service in Scotland in 1865, Joseph Lister was excluded from the government employment because "the Minister of Health had been fully informed . . . that the use of carbolic acid, since it prevented the formation of laudable pus, was inimical to the patient. . . . The Minister of Health then rose to say that he was proposing to introduce regulations making the use of carbolic acid and similar substances, loosely described by Mr. Lister as 'antiseptics' (whatever that might mean), illegal . . .". *(Watts, J. C. British Medical Journal, page 313 February 14, 1948.)*

SMALL BOWEL TUMORS*

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In reviewing the literature, and standard texts of Surgery and Pathology, it soon becomes apparent that small bowel tumors have been neglected. This is surprising when it is considered how many different types of tissue make up the structure of the bowel wall, and hence the variety of tumors which may be present. Baker and Halley[1] list as the commonest lesions the following: lipomas, adenomas, hemangiomas, pancreatic rests, cysts, and fibromas, the rarest of which are the latter. Botsford and Seibel's series[2] discloses that adenocarcinomas are the more common, especially so in the upper reaches of the intestinal tract. Argentaffinomas (carcinoids) were second and lymphosarcoma third in number. According to their series, benign tumors produced symptoms much less frequently than did malignant. Whether malignant tumors are more prevalent than benign seems to vary from clinic to clinic. Of 813 tumors of the entire gastro-intestinal tract at the Army Institute of Pathology, 54 involved the small bowel. Nine were carcinoma, two were sarcoma, and the remainder were benign.[5]

The literature reveals that small bowel tumors vary from 1 to 3% of all tumors of the gastro-intestinal tract. It has been conjectured that many exist symptomless which may account for their rarity. Tumors may occur anywhere in the circumference of the bowel. Pedunculated tumors are more apt to cause intussusception. Natural processes may amputate the tumor, and cause obstruction at a lower level.

All tumors of the intestinal tract are found in the search for melena or intussusception, or their discovery is accidental. The presence of melena depends on the vascularity of the tumor, whether mucosal changes have been effected, as a result of necrosis or ulceration, or with ischemic necrosis of the tumor.

Iason[3] states, of all the intussusception found, that in adults is only about 5%. It may occur anywhere from the stomach to the rectum, although the large bowel is more commonly involved, as neoplasms occur more commonly at that site. He states further that in adults symptoms are vague and those of mild obstruction predominate. Differentiation from peptic ulcer may be difficult and Iason states that the diagnosis is usually made surgically.

Botsford and Seibel[2] in their paper present methods of *x*-ray diagnosis. This depends on early barium contrast studies. They illustrate intussusception of the ileum into the cæcum by barium enema. They also list two techniques whereby the small bowel may be studied. One method consists of taking films at thirty minute intervals following the ingestion of the barium meal until it clears the small intestine. The other method is the passage of a Miller-Abbott tube and the introduction of a thin barium mixture at various stages of its descent. They mention the difficulty of revealing benign tumors due to the overlap of succeeding loops of bowel; however, the associated intussusception may be discovered.

Treatment is, of course, surgical, following adequate preparation of the patient with transfusions, and infusions depending on the condition of the patient. Iason (*ibid*) states that palliative treatment of intussusception should be reserved for children.

We recently had a patient whose symptoms were rather characteristic, but who was much more obstructed than her examination would have led us to believe. She was a thirty-eight year old, unmarried white female who complained of rectal bleeding of one week's duration, associated with periumbilical pain. Bowel habits were normal except for the bleeding. She had vomited twice in the week preceding admission. The blood in the stools was described as dark in color.

The patient had had a barium enema two years previously and it revealed a mild colitis. She also had had surgery for "locked bowels" but other de-

*From the Clinch Valley Clinic, Richlands, Va.

tails were lacking as the surgery was done elsewhere. System review was negative.

Examination revealed a well developed and nourished white female who was not acutely ill. Blood pressure was 120/68, pulse 104, temperature was 99. Physical examination was essentially negative except for the following findings: there was lower abdominal tenderness without rigidity. No masses could be felt and the bowel sounds were normal. Pelvic examination revealed a mass in the right adnexa but it was vague in outline. Sigmoidoscopic examination was normal, except for bloody stool. A flat plate of the abdomen was negative and barium enema revealed a moderate colitis of the descending colon and sigmoid.

Blood count, urinalysis, and serology were normal. Hemoglobin was 52%.

The patient was prepared for surgery and a laparotomy was done. There were several loops of bowel adherent to the old scar. The uterus was found to contain a fibroid on the right side. In the lower ileum, a fibromyoma was found and it protruded from the outer layer of an intussusception. Within the intussusception, more masses could be felt. It was decided to do a resection, the intussusception was removed and the continuity of the bowel re-established by an end-to-end anastomosis.

Figures 1 and 2 show the tumors. The pathologist reported a 12 cm. segment of bowel which contained three rounded masses which bulged into the lumen stretching but not breaking the mucosa. Cut surfaces presented a glistening appearance. Part was white and striated and some areas of brown were thought to represent old hemorrhage. The largest of the masses was three centimeters in diameter. The smallest was one-and-one-half.

Microscopic examination revealed that the outer layer of muscle was apparently replaced by fibrils with just here and there a nucleus. There was considerable interstitial hemorrhage, and the mucosa was normal. Diagnosis: fibro-myoma of the ileum.

The post-operative course was smooth. A Miller-Abott tube was started with Wangensteen drainage. Twenty cubic centimeters of mercury were placed in the balloon to hasten its descent. On the second post-operative day, the temperature spiked to 101.8 and the patient was placed on a gram of streptomycin daily until the temperature returned to normal. The tube was clamped on the fourth day and removed on the fifth. The patient was ambulatory on the fifth day and discharged on the seventh day. She was seen six weeks after surgery and again in four months and she was symptom free.

We are frank to admit that the possibility of a small bowel tumor was only vaguely considered, and still, upon reviewing the history, the symptoms presented were rather characteristic. This case falls into the vast majority of small bowel tumors in which the diagnosis is made on the operating table.

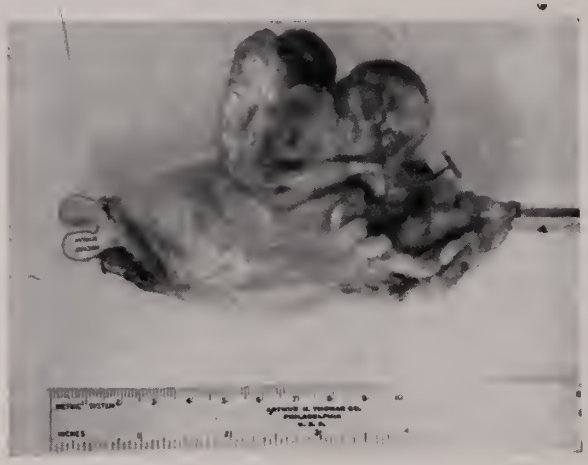

Fig. 1. Specimen of resected bowel showing tumors after fixation and inversion of the bowel.

Fig. 2. Bowel split longitudinally to reveal sources of the tumors.

We were puzzled upon opening the peritoneum that so much obstruction was present with such mild pain. Of course, it is possible that obstruction occurred shortly before surgery. Exploration of the entire gastro-intestinal tract failed to reveal any

other pathology and still, in the course of a few inches, there were three tumors large in size. We believe it possible that the patient's obstruction five years previously could have been from tumor but we are unable to secure the records.

SUMMARY

1.—Tumors of the small bowel constitute from 1-3% of all tumors of the gastro-intestinal tract.

2.—Melena and obstruction are the most prominent symptoms. Diagnosis is usually surgical.

3.—A case is presented in which there were three tumors in the space of a few centimeters.

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Club Foot in Children.

A new technic of treating club foot with a cohesive bandage gives most babies born with the deformity a normal foot, says Emil D. W. Hauser, M.D., of Chicago.

Writing in the September 4 issue of *The Journal of the American Medical Association,* Dr. Hauser points out that treatment with the bandage, which will not adhere to or irritate the skin, can be begun immediately after birth.

The earlier treatment of clubfoot is begun, the better the correction that will be obtained, he emphasizes, as the younger the child the more rapid is growth and the softer and more easily changed are structures of the foot. With former methods, such as the use of plaster casts and splints, treatment could not be begun until a baby was from one to three months of age, he says.

The entire foot and leg are covered with the cohesive bandage and a reinforcement of adhesive tape to hold the foot in as nearly a normal position as is possible.

"The interval between changes of bandage is variable, depending on the age at which the correction is started and the severity of the deformity," says Dr. Hauser.

For the newborn baby the bandage is reinforced daily and changed once a week, with more correction at each treatment. Since the deformity is corrected rapidly at an early age, it is important for parents to realize the necessity of continuing treatment until the child walks, according to Dr. Hauser. If treatment is stopped too soon, the deformity may reoccur, he says.

Although in some cases a tight tendon in the foot will not allow a full correction with the bandage alone, the tendon can be lengthened by surgery, he indicates. In only a few cases does the child fail to develop a normal foot.

UNICAMERAL CYST OF THE CALCANEUS

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Cystic lesions of the long bones, either single or multiple, are relatively common, but solitary cyst of the calcaneus is a rare lesion. Up to the present time, only 16 cases have been recorded in the medical literature. In 1930, Smith[10] reported a single case which he considered to be a localized osteitis fibrosa or the result of a structural defect of the bone. Four cases were recorded by Fitte and Mulcahy[5] in 1939. One proven case each was contributed by Sobel[11] and Beclere,[1] in 1936, with Caritat[3] adding another case in 1941. McLachlin[9] in 1943 lists a single case of solitary cyst of the os calcis in an eight year old girl. A solitary cyst of the calcaneus is illustrated by Brailsford.[2] Copleman, Vidoli, and Crimmings,[4] together, reported three cases in 1946, and Janes[8] added another case, the same year. Two cases were reported by Trivelli[12] in 1947.

It is the impression of Copleman, Vidoli, and Crimmings[3] that these cysts are the same as the solitary cysts seen in the long bones, both grossly and microscopically. The pathogenesis of solitary

Figure 1. Case 1

cyst of the bone is debatable. Geschickter and Copeland[6] believe that the solitary bone cyst is a localized osteitis fibrosa or the healing of a giant cell tumor. This view is not held by Jaffe and Lichtenstein,[7] who agree with Mikulicz, and think that this is a disease entity with no relationship to any other condition. It is their belief that the solitary bone cyst is the result of a localized disturbance of bone growth with resulting cyst formation. Copleman, Vidoli, and Crimmings[3] support this view and think that stress or trauma may contribute to the disturbance of bone growth. The

Figure 2. Case 2

lesion is benign, and no reports of malignant degeneration are found in the literature.

The clinical signs and symptoms are not prominent. There may be localized pain and tenderness with a resulting limp on walking or there may be no symptoms, as in case one. This condition is most frequent in the early years of life, being seen most frequently in the first three decades. The lesion is most often in males with only three reported cases in females.

The roentgenologic findings are rather typical, so much so that Copleman, Vidoli, and Crimmings[3] state: "that once recognized, they seem to make operative proof unnecessary for the acceptance of the diagnosis." A triangular area of radiolucency is seen in the anterior portion of the os calcis. Frequently a multilocular appearance is noted and fine

trabeculations may be seen crossing the cyst. There is lateral expansion of the cortex which remains intact, as in the solitary cyst of the long bones. No periosteal changes are present, and there is no destruction of the bone.

Treatment consists of curettage and packing with bone chips. None of the cases seen or reported were treated by radiation. It is unlikely that this type of therapy would be of value. Jaffe and Lichtenstein[7] noted no benefit in radiation of cysts of the long bones.

The two cases below were recently seen at this hospital.

Case I: A 40 year old white male was seen in the emergency room of the Medical College of Virginia Hospital complaining of pain in the ankle, following a fall at home a short time before. There was swelling and deformity of the right ankle and the clinical diagnosis of simple fracture of the fibula was made. A roentgenogram at this time revealed an oblique fracture of the external malleolus and a fracture of the posterior end of the tibia, with the incidental finding of a cystic area of the anterior portion of the calcaneus which measured 1.3 cms. in diameter. There was no previous history of symptoms or injury.

Case II: A 35 year old white male was seen in the emergency room of this hospital with the complaint of pain in the left heel. His symptoms had been present for about two weeks. Physical examination was essentially negative and there was no swelling, ecchymosis, or particular pain on motion of the left foot. A roentgenogram revealed a somewhat multilocular, cystic lesion located in the anterior portion of the calcaneus measuring 2.3 x 3.9 cms. The patient refused further treatment and was discharged.

SUMMARY AND CONCLUSIONS

1. Solitary cyst of the calcaneus is a rare condition, with sixteen cases reported. Two more cases have been added. Clinical signs and symptoms may or may not be present.

2. A triangular area of radiolucency in the anterior portion of the calcaneus with no bone destructive changes should suggest the unicameral cyst.

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CYANOSIS IN INFANTS FROM POLLUTED WELL WATER*

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The discovery that well water, even though boiled, may be toxic for young infants was first made by Comly[1] in 1945. He reported two cases of his own and nineteen observed by others in whom the ingestion of polluted well water caused cyanosis and listlessness. In his first case the cyanosis had previously been shown to be due to methemoglobinemia; a peculiar gaseous poison arising from a defective oil burner was suspected. Comly's contribution consisted in showing that the methemoglobinemia was due to the use in the formula of well water which contained 619 mg. per liter of nitrate ion.

The November, 1946, issue of the *Journal of Pediatrics* contains two articles reporting further instances of cyanosis in infants from the use of well water in their formulae. One article is by Ferrant[2], of Louvain, Belgium, and the other by Faucett and Miller[3], of Kansas City.

Methemoglobin is a changed form of hemoglobin in which the capacity for transporting oxygen to the tissues is blocked by an OH group. This chemical change is brought about in many different ways; poisoning with aniline, nitrophenol, sulfanilamide, potassium chlorate are all well known agents in its production. The ingestion of nitrates has also been known to produce methemoglobinemia. The nitrate is apparently reduced to nitrite in the bowel and is absorbed in this form. Cyanosis has followed the use of bismuth subnitrate in the treatment of diarrhea or as a contrast medium in gastro-intestinal radiology. Ferrant calculates that the quantity of nitrate ion ingested in reported cases of poisoning from bismuth subnitrate is of the same order of magnitude as the nitrate ion ingested in the reported cases of cyanosis from well water.

Ordinary clinical cyanosis such as one sees in cardiac and pulmonary disease is due to the presence of reduced hemoglobin in the circulating blood. If the disease is such that it permits the administration of high concentrations of oxygen, the latter corrects the cyanosis. In contrast, the cyanosis due to methemoglobin is not improved by oxygen, and, as Comly states, it gives the skin an unusual brown-gray color, noticeably different from the color of reduced hemoglobin. Everyone is familiar with the cherry red color of the lips in asphyxiation with carbon monoxide; this is the color of still another form of hemoglobin—carboxyhemoglobin.

In the seven cases of cyanosis from well water which were personally studied by the three authors quoted the ages of the infants ranged from two to six weeks. The well water used in Comly's first case contained 619 mg. of nitrate ion and 0.4 mg. of nitrite ion per liter, and in his second case 388 mg. of nitrate and 1.3 mg. of nitrite. In Ferrant's cases the nitrate concentrations were 497 and 180 mg. per liter. Faucett and Miller found 310 and 1329 mg. per liter. A survey of 2000 Iowa wells in 1934 and 1935 revealed a nitrate ion content which varied from zero to 554. Comly suggests as an upper limit of safety 44, or, at most, 88 milligrams per liter of nitrate ion.

The nitrate appears in well water as the result of the disintegration by bacterial action of organic matter of plant or animal origin—not necessarily from sewage.

It is interesting that adults who drink this same water do not exhibit cyanosis or other untoward effects. In a few of these cases the blood of the parents was tested and found to contain not more than the physiological maximum of methemoglobin—about 1 per cent of total hemoglobin. Comly suggests that infants are more susceptible because their intestinal mucosa is more delicate and allows a more ready passage of nitrate ions; also, they may have more nitrite producing bacteria in their intestinal flora. It is, of course, a fact that infants have a much greater fluid intake in proportion to total body weight than adults. Thus a formula made largely of polluted well water would contain much more nitrate in proportion to the amount of circulating hemoglobin than would be the case with an adult. In the cases so far reported the infants have all suffered from some gastro-intestinal disturbance, mild or severe, at the time the cyanosis occurred. Possibly this disturbance damaged the mucosa of the intestine sufficiently to permit the passage of the nitrite ions.

Once recognized, the treatment of this condition

Read before the Staff Meeting of the Baptist Hospital, Lynchburg, November, 1947.

*From the Pediatric Service of the Virginia Baptist Hospital.

is fortunately simple. A change of water in the formula, alone, may be all that is necessary. Following this change, the methemoglobin is converted to normal hemoglobin in from one to four days by physiological processes. Hartmann[4] in 1938, and later Wendell[5], standardized the use of intravenous methylene blue in reversing methemoglobinemia. The drug is given in a dose of 1 to 2 mg. per kilo of body weight. It is rapidly effective. In their second case Faucett and Miller found a methemoglobin of 9.2 gm. per 100 cc. of blood and a total hemoglobin of 13.5 gm. per 100 cc., thus leaving 4.3 gm. of functioning hemoglobin per 100 cc. of whole blood. Twenty minutes after the intravenous injection of 0.6 cc. of 1% methylene blue the baby's color was normal. In thirty minutes the methemoglobin concentration had fallen to 0.7 gm. per 100 cc.

Case Report.—S. J., a five weeks old white female infant was admitted to the Virginia Baptist Hospital at 8 P.M. on November 3, 1946, with the complaint of blue spells for two days.

She was born, her mother's first child, on September 26, 1946, at Cairo, Illinois, after a long and difficult labor. An episiotomy was done and forceps were used, leaving marks that were still visible. Following birth she behaved normally, with no cyanosis, jaundice, bleeding or convulsions. The birth weight was 8 lbs., 3 ozs. She was fed a formula of SMA and boiled water.

At the age of one month she was brought East for a visit, arriving in Clover, Virginia, on October 30. Three days after arrival, on November 2, she alarmed her parents greatly by becoming quite blue. Within a few hours the degree of blueness became less. She was still somewhat blue on the following morning. Later in the day she became very blue and was seen by Dr. James Hagood who was unable to find a cause for the cyanosis. There had been no fever, choking spell, nasal discharge, cough, nor diarrhea. She continued to nurse well, but occasionally spit up or vomited a small amount of milk.

Examination on admission showed an active, well-developed and nourished infant with generalized cyanosis of a moderate degree. The admitting nurse was shocked at the deep blue color and felt certain that the baby was critically ill. Close observation showed no signs of distress, however. Respiration was regular, not unduly rapid, and not labored. The pulse was regular with a rate of 120. The baby was alert and appeared to notice her surroundings.

The fontanel was soft. Eye movements and pupillary reactions were normal. The nose, ears, and throat were free of any evidence of infection. The chest was well formed and there was a normal note of resonance over the lung fields. No rales or bronchial breathing could be heard. The heart was not enlarged to percussion and there were no murmurs. The abdomen was soft, easily palpated and revealed no enlarged organs nor abnormal masses. Genitalia and extremities were normal.

Since no obvious physical cause for the cyanosis could be found, the ingestion of poison was suspected. Careful questioning of the mother and grandparents uncovered no source of poison. The baby had not received any drug, nor, indeed, any food except the SMA and boiled water. She had taken this same formula since birth. At this point the article by Comly was recalled and the grandfather was asked about the quality of water used. He admitted readily that the well was obviously contaminated. It was located near a barn and was often muddied by the inflow of dirty surface water. This water was used simply because there was no nearer source of good water. He stated that all water for drinking, and, of course, the water used for the baby's formula, was boiled before using. No one had ever suffered any ill effects from using the water.

After this description of the source of the water, methemoglobinemia was considered the most likely reason for the cyanosis. An attempt was made to find methylene blue for injection but none was available in town†. Also it was found that the necessary reagents were not on hand for measuring the degree of methemoglobinemia. Oxygen was administered for a few minutes but no change was noted in the degree of cyanosis. Therefore, the baby was given a formula of evaporated milk and water.

On the following day the cyanosis was noticeably less and the baby still showed no distress. A roentgenogram of the heart and lungs showed no enlargement of the heart and perfectly clear lung fields.

Blood studies on the same day, November 4th, showed a hemoglobin of 78% (Sahli), a red count of 3,580,000, and a white count of 10,300. A smear

†At the present time no pharmaceutical firm supplies methylene blue solution in ampoules. Such a solution can be readily prepared by weighing 1 gram of U.S.P. XII methylene blue on a sheet of clean filter paper and adding it to 100 c.c. of freshly boiled and partially cooled distilled water.

showed normal platelets, 39% PMN's and 61% small lymphocytes.

Two days after entry, November 5th, the cyanosis had practically disappeared. The family was well satisfied with the explanation of the cyanosis as due to the dirty well water and were anxious to take the baby home. She was sent home on the same evaporated milk formula to which water from a neighbor's well was to be added. A follow-up call in one week revealed no further trouble.

In April, 1947, the mother wrote to say that the baby had had no further blue spells and had grown and developed well.

A week after leaving the hospital the grandfather sent a sample of the well water to the Virginia State Department of Health for analysis. By error this sample was thrown out. Because the family moved about in the meantime, no further sample could be obtained until April, 1947. At that time the Laboratory of the Department of Health found the nitrate content to be 266 mg. per liter. This figure indicates gross contamination of the well water. It is unfortunate that this water anaylsis was not made at the time of the baby's illness. However, in the meantime, no attempt had been made to clean the well, so that the analysis is probably pertinent.

SUMMARY

The use of contaminated well water containing from 70 to 619 mg. per liter of nitrate ion is capable of causing a severe cyanosis in young infants when used in their formulae.

A case is reported of cyanosis in a five weeks old infant which was probably due to nitrate in polluted well water.

ADDENDUM

Since the above was submitted for publication in January, 1948, a new study of the problem has appeared in the literature: Cornblath, Marvin, and Hartmann, Alexis F., "Methemoglobinemia in Young Infants", *Journal of Pediatrics:* 33:421, October 1948. These authors show that the ingestion of nitrate will cause methemoglobinemia in only those infants who have a low acidity of the gastric juice, (a pH higher than 4.0). The low acidity permits the growth of several organisms which are capable of reducing nitrate to nitrite in the upper gastro-intestinal tract. The absorption of this nitrite by the blood stream then produces the methemoglobinemia and cyanosis. The normally high values of gastric acidity in adults explain why they never exhibit cyanosis from drinking water with a higher nitrate content. Such nitrate is absorbed in the upper portion of the gastro-intestinal tract before it has come in contact with the bacteria present in the lower bowel.

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A CASE OF PREGNANCY COMPLICATED BY A UTERUS DIDELPHYS

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Congenital anomalies due to improper fusion of the Muellerian ducts are relatively uncommon complications of pregnancy. Extreme forms of the anomaly are found only once in 1500 deliveries[1]. Despite this scarcity, a goodly number is to be anticipated yearly in large populations. For instance, fifty annually might be expected in Virginia. Because of this fact and because a majority of the recently reported cases have come to operation[2], a case recently handled successfully from below was thought worth reporting.

CASE REPORT

Mrs. E. W., age 26, white, primigravida, EDC October 21, 1946, was first seen prenatally at 6 months with a moderately severe pyelitis of pregnancy. This was successfully treated with sulfadrugs. Pelvic examination at this time revealed two equal-sized vaginas separated by a fairly thick septum. In the vault of each vagina was a normal-appearing cervix. Abdomino-pelvic palpation revealed a mass the size of a fist to the left of the pregnant uterus. This "left" uterus gave no evidence of incarceration.

The pelvic measurements taken at this time were: Intercristal 27 cm., interspinous 23 cm., external conjugate 19, diagonal conjugate 12½ cm., bisischial 10 cm. Her blood pressure was 114/74; weight 134.

The prenatal course was uneventful except for a slight tendency to edema which was controlled by diet and epsom salts, and a moderately increased blood pressure which was controlled by rest and mild sedation.

On January 13, 1947, she fell into active labor. When first seen in the hospital, the cervix was 4 cm. dilated, the head was at the spines, and there was no evidence of incarceration of the non-pregnant uterus. Under excellent demerol-scopolamine analgesia, labor progressed rapidly to full dilatation 2 hours later, making the total duration of the first stage 5 hours, 45 minutes. The head descended rapidly and the patient was taken to the delivery room, where, under ether anesthesia, after a fleshy median vaginal band was cut and an episiotomy done, the baby was delivered easily by low forceps. Duration of second stage: 28 minutes. The placenta was delivered by expression 17 minutes later. Blood loss estimated at 150 cc. The postpartum course was afebrile.

Examinations at delivery, at 6 weeks, and at 6 months revealed that the septum between the cervices and vaginas had been destroyed by the passage of the baby, so that now, to casual observation there is no suggestion of a uterus didelphys. Interestingly enough, destruction of these apparently thick septa resulted in no complications. Bleeding from torn surfaces was negligible.

DISCUSSION

It is generally agreed that, in the absence of other complications, every woman with double uterus and vagina deserves at least a conscientious trial of labor. According to Taylor[3], incarceration of the non-pregnant horn with a breech at term is the only absolute indication for section referable to the anomaly alone. Nevertheless, relatively few reported cases are delivered vaginally. One writer records 11 operative deliveries out of 15 cases, most of these being sections[4].

It is thus obviously true that these cases have an increased tendency to complications. The abortion rate is high, 53% in one series[5]. Premature labors also are frequent. And when the pregnancy goes to term there are a number of other possibilities. Uterine inertia, prolonged labor, and even rupture of the uterus due to faulty arrangement of the muscle fibers, while not as frequent as one might expect, are possibilities. Incarceration of the non-pregnant horn and abnormal presentations account for other operative deliveries. Of equal importance is the possibility that there may be a contracted pelvis associated with the defective development of the generative tract. The resultant cephalo-pelvic disproportion accounts in large measure for the high incidence of cesarean sections. Among cases delivered vaginally, retention of the placenta is common —in as many as 37.9% of the cases in Smith's series.

The present case presents a striking contrast to

all these dire possibilities. The pelvis was more than ample, there was no threat of abortion, the non-pregnant uterus presented no difficulties. Labor itself was well nigh precipitous, and the placenta was secured readily. The torn septa showed no tendency to bleed upon inspection after delivery. The lesson is obvious. Such cases merit thorough study, frequent prenatal visits, and in the absence of complications outside the generative tract, deserve a trial with conservative treatment.

SUMMARY

1. A case of pregnancy in a uterus didelphys managed conservatively with marked ease is presented.

2. The possible complications are briefly reviewed.

3. It is concluded that the average case deserves a trial with conservative treatment.

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Professional Building.

Impressionistic Medical Art.

A new type of impressionistic medical art, created for Winthrop-Stearns Inc., pharmaceutical manufacturer, by John Arnold, Viennese artist now in New York, is attracting widespread attention among physicians and scientists.

The idea is to form the profile of a human head using a variety of objects either symbolic of the condition to be treated, or of the plants, animal tissues, or human organisms involved in the medication.

In one painting, entitled "Fruits, Vegetables and Vitamins", Arnold has assembled oranges, grapes, onions, garlic, tomatoes, beets, peas and other vitamin-rich fresh fruits and green vegetables to form a feminine face. To portray the protein values in fish and meats as obtained in amino acid preparations, a man's head with a goatee cleverly emerges from an array of raw steak, chops, frankfurters, lobsters and several different kinds of fish.

The beauties of spring and the pleasures of summer are often marred for many a patient suffering the discomforts of hay fever, and Arnold has created a woman's features from a variety of botanical species, flowers and grasses, many of which cause allergic reactions.

Described as "gruesome, but humorous", another Arnold oil painting depicts a head composed entirely of detailed colored drawings of human internal organs: intestines, lungs, brain, heart, kidney and gallbladder among others. This is the latest work in the collection. It is entitled "Vitamins and Viscera". Others are scheduled to follow to complete the series, according to Cook.

Arnold came to the United States in 1941 from Paris, where his paintings have been exhibited. While he has developed the new medical art form, he emphasized that he received his original inspiration from a painting by the old Italian master Ercimboldo, now hanging in the Kaiserlich Art Museum in Vienna.

WHAT ARE THE MOVIES DOING TO OUR YOUNG PEOPLE?

E. P. TOMPKINS, M.D.,
Lexington, Virginia.

A tragic occurrence which constitutes another terrific indictment of sensational movies and the sort of program which is fed to the youth of the land far too often by radio broadcasts, came under my observation as County Coroner, when called to investigate the recent death of a fifteen-year-old boy.

Briefly the circumstances were: The boy, son of moderately well-to-do parents, living on a farm, used his father's typewriter to leave a farewell note immediately before he fired a bullet into his brain. In most respects he was apparently a normal boy—fond of animals and especially his riding-horse mentioned in his note. He was a good swimmer, and rather daring in diving and water sports. Not brilliant in school, but passed his examinations without difficulty. But his chief hobby was attending lurid movies—the more sensational, the more he enjoyed them. He would frequently walk the five miles to town, and back late at night, to see such a movie. And he would sit for hours by the radio if he could get a program of this sort. Like many adolescent boys he was resentful of family discipline, and in his note blamed his mother, and his much older brother, who aided the mother is maintaining discipline, inasmuch as the father's business—a railroad mail clerk—kept him from home a large part of the time. (The family consisted of father, mother, and nine children, from, say, 28 to 13 years of age.)

The boy was an expert rider, and had trained his horse to "buck", and execute various tricks in true "western" style—a part of the lad's sensation-hungry disposition. He was very devoted to this horse.

He did some work on the farm, and likewise for neighbors, most likely for the purpose of earning money to spend on movies.

He apparently had no just appreciation or comprehension of the real meaning of death; and it would seem as if his mind dwelt on a sensational finale and a dramatic exit. His tragic death presents an appalling arraignment of the sort of mental pabulum supplied to the youth of the land.

A fellow-practitioner relates this experience, of recent occurrence: He was called to see a girl in early teens; found her in apparently very serious condition—gasping for every breath she drew, and trembling violently all over. At first he had an idea it might be due to a thymus gland trouble, and so at once took the child to the hospital and had an x-ray made of neck and upper chest. This showed nothing abnormal. Upon delving deeper into her history and her thoughts, he found the condition was entirely brought on by *fear*—the girl had been reading the so-called "Comics", with various sorts of horrors therein depicted, and had acquired such a fright of robbers or house-breakers and such that she was in mortal terror of her life. Isolation from this disturbing element for a few weeks restored her to a normal condition. Mothers who are at a loss to account for bad dreams and nightmares in their children may well look to this as a source of such disturbances.

It would certainly seem as if some sort of legislation is in order to do away with what is getting to be a real menace to youth. Having a bad influence on children and adolescents, these malicious agencies will undoubtedly result in later life in law-breaking and various offences against society. They should be curbed before the damage done is no greater than it already is. Immature minds are not competent to realize that the so-called "heroes" are flouting not only civic but moral laws as well.

CORRESPONDENCE

DeJarnette State Sanatorium.

TO THE EDITOR:

Despite the thousands of Virginians who have received treatment at the DeJarnette State Sanatorium, there are a good many Virginia physicians who do not appear to know much about the Institution. In the interest of the people of the Commonwealth and of the physicians who serve them, I am submitting the following information in the hope that you will see fit to publish it in the "Virginia Medical Monthly."

The Sanatorium was founded in 1932, as a unit of the Western State Hospital. It is located about two miles east of Staunton, Virginia, on the south side of U. S. Highway 250.

It was largely through the efforts of Dr. J. S. DeJarnette, now retired, that the Sanatorium was erected. Money was borrowed from the State treasury for this purpose, and the indebtedness was liquidated from the earnings of the Institution within a few years. The first hospital building constructed was named after the Institution's founder and was called the DeJarnette Building. The Perry Building was subsequently erected, and these two plus several smaller buildings for personnel, etc., constitute the physical plant.

The Sanatorium was established by Commonwealth statute as an autonomous institution, separate from Western State Hospital, in 1946. It was provided by statute, from the beginning (1932) that the Sanatorium should be self-sustaining and have no access to State tax revenues. The founding statute also specified that its mission should be to provide psychiatric care and hospitalization for the citizens of the Commonwealth at approximately cost and of a quality comparable with that of care provided by private institutions. It was anticipated that a reasonable net should be realized to amortize obligations incurred in old construction and to provide for necessary future construction.

Initially, there was strong opposition in the medical profession to the operation of such an institution by the Commonwealth. The thought was that it would place the latter in the position of competing with private institutions. However, it has never actually been in such a position and, happily, there remains hardly a vestige of the initial opposition. The Institution fills a very real need not only for the people but in the medical practice of the State's physicians. The basic concept of the Sanatorium is unique, but it has stood the test of time.

The buildings are fireproof. They are constructed of brick and concrete and embody a modified colonial style. Male patients are housed in the DeJarnette Building and female patients are accommodated in the Perry Building. They each have three stories. Actual bed capacity is 161 but working capacity is about 150.

The Sanatorium has previously been badly crowded, but in the past twelve months, the patient census has not been permitted to exceed 151. The patient turnover is very rapid. For this reason, there is seldom ever a waiting list. When there was such a list during the past year, the applicants did not exceed five or six, and they were admitted within a few days.

We are committed to a policy of caring for acute cases and those which could reasonably be expected to benefit from treatment. Many elderly patients are generally referred to as "seniles" with the implication that they are hopeless. This is actually far from the truth. The depressions of old age are very numerous. Hardly any conditions respond more dramatically to psychiatric treatment than these. We, therefore, do not reject any patient simply on the basis of advanced age.

There are no common wards in the institution. Accommodations consist of double rooms without private bath, single rooms without private bath, and double rooms with private bath. Every room is provided with running water except those few which are utilized for protective seclusion. Recreational facilities available include movies, library, golf course, badminton court, tennis court, croquet, dances, card parties, and others. There is a full time occupational therapist and a volunteer who works about half time. Occupational therapy facilities include leather and metal work, music, painting and drawing, sewing classes, letter writing class, gardening, calisthenics, etc.

There is also a full time physiotherapist. These facilities include infra red, ultra violet, galvanism, acetylcholine iontophorresis, cabinet baths, massage, continuous tubs, sitz baths, Scotch douche, etc.

The medical staff includes two full time physicians and one part time, all psychiatrists. The consultant staff, all practicing in Staunton, includes specialists in general surgery, orthopedics, internal medicine, eye, ear, nose, and throat, roentgenology, gynecology, and dentistry. Laboratory work is done by a full time laboratorian. Serology is done by the laboratory of the State Health Department. Pathology is done at the University of Virginia Hospital. A psychiatric and a neurological consultant are members of the staff of the University of Virginia Hospital. There are four graduate nurses in full time status and sixty attendants. There is a total of 119 employees of all categories.

Treatment facilities at the Sanatorium include conventional electroshock, brief stimulus therapy, deep insulin shock, individual and group psychotherapy, occupational therapy, physiotherapy, malarial and other antisyphilitic pyrexial therapy, massive penicillin and chemotherapy, lactic acid therapy for agitated depressions, and certain neurological procedures such as paravertebral, caudal, and transsacral blocks, alcohol and procaine nerve injections, iontophorresis, etc. Prefrontal leukotomy is done at places selected by families of patients but usually at the University Hospital or in Richmond. Diagnostic facilities of the psychiatric variety include the individual interview, observation, and psychometric testing. The Rorschach test is very frequently employed.

Cases accepted for treatment include the major psychoses, both organic and functional, the psychoneuroses, psychopathies, alcoholism, and the addictions. The treatment of alcoholism is chiefly along psychological lines but the physical conditions of these patients are also accorded considerable attention. Insulin in tonic doses is employed for inappetence. Electroshock is used in those cases showing more tension than usual. The acute phase of alcoholism is treated with sedation and a gradual liquor wihdrawal schedule which reduces the incidence of alcoholic hallucinosis almost to the zero point. The reduction schedule takes three or four days for completion. As to how long an alcoholic should be hospitalized, we do not speak in definite terms but recommend a minimum of two weeks. The addictions are treated with a reduction schedule lasting from one to two weeks. We require that these patients be committed to us and that they remain for at least four weeks. Electroshock is also used in the addictions in selected patients, as are tonic doses of insulin.

C. EARLE JOHNSON, JR., M.D.,
Superintendent

*Published with the permission and approval of the Virginia Department of Mental Hygiene and Hospitals.

Bibliotheca Obstetrica

HOBOKEN, NICOLAUS (1632-1678): Anatomia secundinae humanae, quindecim figuris ad vivum propria autoriis manu delineatis, illustrata. Ad nobilissimum amplissimumque virum, D. Nicolaum Tulpium, Medicum excellentissimum, Reip.Amstelr. Exconsulem, & Senatorum, & illustr. & Prepot. D.D. Hollandiae ac West-Frisiae Ordd. Delegat. Collegio adscriptum. Cum annexo S. Spicilegio Epistolarum, rem potissimum generatorium referentium. Trajecti ad Rhenum Apud Johannem Ribbium,1669. 221 (11) p. Front.port. engr.title page. 9 plates, 15.9 cm

Hoboken was a pupil of Diemerbroeck and professor at Utrecht and Harderwyk. These beautiful pictures of the placenta, umbilical cord and vessels, and the fetal membranes, drawn from life by the author show that he well understood the anatomy of the secundines. This little book was of considerable value in its time. According to Ricci (The Genealogy of Gynecology) the 1675 edition described the development of the corpus luteum during the pregnant state, but failed to mention whether it existed otherwise.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for November 1948 as compared with the same month in 1947, and for the period of January through November 1948 compared with the same period in 1947, is as follows:

	Nov. 1948	Nov. 1947	Jan.-Nov. 1948	Jan.-Nov. 1947
Typhoid and Paratyphoid	6	29	127	160
Diarrhea and Dysentery	285	142	4,219	4,809
Measles	219	100	6,498	7,661
Scarlet Fever	91	182	807	1,184
Diphtheria	37	39	229	227
Poliomyelitis	45	18	562	172
Meningitis	10	4	84	95
Undulant	1	9	74	72
Rocky Mountain spotted fever	0	1	63	67
Tularemia	3	3	51	50

DIPHTHERIA IN VIRGINIA

Diphtheria in Virginia in Last Five Years

	CASES	DEATHS	CASE FATALITY RATE
1943-1944	349	17	4.9
1944-1945	345	29	8.4
1945-1946	669	52	7.8
1946-1947	460	30	6.5
1947-1948	254	21	8.3

With the return of American soldiers from Europe in 1945-46 it was feared that there would be an increase in diphtheria. Fortunately, these fears have not been substantiated. It will be recalled that during the winter of 1945-46 there was a high incidence of diphtheria in Europe, Germany reporting 17,000 cases in a month, the Netherlands 5,000, Poland 4,000 and Czechoslovakia 3,000, for a like monthly period. Not only was there high incidence, but the case fatality was high. It was, therefore, felt that the exposure of thousands of American soldiers to this organism of apparently high virulence made it probable that many of these soldiers would return as diphtheria carriers. The Virginia figures for the year July 1, 1945-June 30, 1946, appeared to justify this apprehension. From a low of 345 in 1944-45, the case reports soared to a high of 669 in 1945-46, but for some reason there has been a progressive decline in incidence since that year. There were 460 cases reported in 1946-47, 254 in 1947-48, and for the first five months of the current reporting year, 111. Case fatality rates have been relatively high.

For the country as a whole the Public Health Service reports a corresponding decline. Through December 4, 1948, a total of 8,908 cases of diphtheria has been reported, the lowest figure for the corresponding period on record. This may be compared with 11,220 in 1947; 14,777 in 1946; 16,744 in 1945; and a five-year median of 12,643 cases for the corresponding periods.

However, these fluctuations downward should not give a sense of false security. In control of diphtheria, eternal vigilance is still the price of security. This vigilance is two-fold, widespread immunization and the detection, wherever possible, of carriers.

Immunization should be given during the last half of the first year of life. It is dangerous to wait until the child reaches school age before immunization, since two-thirds of the deaths from diphtheria occur before school age. In public health practice the immunization program is pushed actively until at least half of the children in all age groups have been protected.

The handling of the carrier is a "headache" for the health officer. Among the numerous chemical and physical agents that have been tried, the best so far is the removal of diseased tonsils and adenoids. Some success has been reported in the use of penicillin and warrants trial before surgery. Organisms should be tested for virulence before resorting to nose and throat surgery as a method of eliminating carriers.

MEDICAL SOCIETY OF VIRGINIA
COUNCIL
Special Meeting

A special meeting of the Council was held at the Society's office, Richmond, December 16th at 4:30 P.M., with the president, Dr. M. Pierce Rucker, presiding. Others attending were: Dr. W. C. Caudill, president-elect; Dr. C. L. Outland, first vice-president; Dr. L. J. Roper, State Health Commissioner; Drs. R. B. Bowles, C. L. Harrell, Guy W. Horsley, W. J. Ozlin, W. A. Porter, John T. T. Hundley, R. P. Bell, Jr., V. W. Archer and James P. King, councilors; Dr. Walter B. Martin, member of the Board of Trustees of the American Medical Association; Drs. J. M. Hutcheson and H. B. Mulholland, delegates to the A.M.A.; and Mr. Henry Johnson, public relations director.

There being a quorum, the President said he would take up a few matters while waiting for the others to come. On motion, minutes of the last meeting of the Council were accepted as printed in the December, 1948, VIRGINIA MEDICAL MONTHLY.

Dr. Rucker said that the Chamberlin Hotel, Old Point Comfort, had been selected for the 1949 meeting but, as he had heard some criticism of starting the business sessions on Sunday, he would like to know the wishes of the Council. Several felt this had proved very satisfactory at the last meeting and it was decided that the Council and House of Delegates meet on Sunday afternoon again in 1949. Dates were named as October 9-12.

In accordance with vote taken by mail, it was stated that the view boxes for scientific exhibits, owned by the Society, have been given the Medical College of Virginia, in view of other arrangements for these exhibits.

The President then announced that the special purpose of this meeting was to consider the action taken by the House of Delegates of the American Medical Association, at its recent meeting in St. Louis, with regard to an assessment of $25.00 on each member of the American Medical Association. The secretary was asked to read the following telegram:

> Recent interim session House of Delegates unanimously decided to assess each member of the American Medical Association twenty-five dollars. You are requested to collect this assessment through your county units or any other way you desire. Bill Association for any extra expense in connection with collection.
>
> GEORGE F. LULL, *Secretary*
> American Medical Association.

Dr. Rucker asked Dr. Martin, American Medical Association Trustee, who had been named a member of the Planning Committee for this campaign, for further information. He said it was reasonably sure that the Murray-Wagner-Dingell Bill with some modifications would come up in Congress again this year, and it was felt the American Medical Association, state and county societies and individual doctors should be aroused to meet the issue. The Trustees and House of Delegates were opposed to any form of socialized medicine and felt the best way to combat this was to put on a nationwide plan of education on the progress of American medicine, stressing the advantages of the American system in giving a high quality of medical care. To do this, it was necessary to have funds and, for this purpose, it was decided to levy an assessment of $25.00 on each member of the Association. A Planning Committee was appointed to govern the over-all policies of the campaign and the Committee had already decided to employ Whitaker and Baxter of San Francisco as public relations counsel. They will direct the campaign from a Chicago and Washington office, working closely with headquarters. This is the firm which last year directed the campaign of the California State Medical Association in defeating the program for compulsory health insurance as proposed by Governor Warren.

In addition to paying the assessment, Dr. Martin said it would be necessary for doctors to know how their representatives in Congress stand and inform them if necessary as to the type of medical care to the public that would result from President Truman's proposed compulsory sickness insurance program. Drs. Mulholland and Hutcheson felt it would take salesmanship but that the immediate responsibility is to collect the assessment and then to help in every way in carrying out the objective. This Dr. Hutcheson felt could best be handled through component societies and district councils.

Question was asked as to how the assessment should be collected. Dr. Martin suggested that it should first be decided if the Council approves the plan and then how to collect it. Dr. Mulholland asked if all the money would be used for the educational program or for any other purpose. Dr. Martin said the Board of Trustees would like to be empowered to use the money as they felt it was needed. They are going ahead with the funds they have, borrowing if necessary, but wish to be reimbursed.

Dr. Harrell moved that this body go on record as approving the action of the American Medical Association in assessing all members $25.00 for this campaign, and that we give them our hearty support. This was seconded. Dr. Hundley said his society was enthusiastic about helping and he did not feel there would be any trouble in raising the fund. Dr. Archer cited the work done in California, stating that with what they raised they were able to secure very able public relations counsel, which Dr. Martin said is the counsel already engaged by the American Medical Association. Dr. Harrell's motion then put to vote was carried unanimously.

The next question was how to collect the assessment. In the discussion which followed, it was felt this matter should be handled on the local level through the component societies but it would not affect the membership of anyone who would not pay. Dr. Bell asked if this could be taken up through the Public Relations department, but Dr. Martin felt the councilors should inform the local societies. Dr. Bowles asked if it might be discussed at the Public Relations conference to be held short-

ly. Mr. Johnson said if the Council wished they can have a discussion of this subject fit in their program.

Dr. Hundley then offered the motion that a letter be sent immediately to the secretary of each component society, and to each member of the district councils, requesting that immediate steps be taken to collect the $25.00 assessment to combat compulsory insurance; that copies of these letters be sent to each councilor, together with a letter informing him that he is responsible for securing this collection within his district, and also notifying him that necessary expenses will be paid. This was seconded. In the discussion, it was felt that every councilor should be given all information possible and arrangements be made to contact every doctor in the State. Every congressman should be seen with the idea of finding out his attitude on the subject of socialized medicine; if on the fence, he should be educated. Dr. Archer felt that each councilor should indoctrinate the members of his district council, and should find out the best way of contacting the congressman, probably through his family physician. It was also suggested that each local society should collect from its members, and send the money to the state society with a roster of contributors. This money should then be sent to the American Medical Association. Dr. Hundley's motion was then carried.

There followed an informal discussion on Blue Cross and Blue Shield and the need of the doctor's support in joining and educating their patients in regard to these organizations.

AGNES V. EDWARDS,
Secretary.

Approved:
M. PIERCE RUCKER,
President.
December 20, 1948.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—MRS. R. M. REYNOLDS, Norfolk
President-Elect—MRS. C. E. HOLDERBY, Hilton Village
Recording Secretary—MRS. T. S. CHALKLEY, Richmond
Corresponding Secretary—MRS. CHARLES LUPTON, Norfolk
Treasurer—MRS. REUBEN SIMMS, Richmond
Parliamentarian—MRS. H. W. ROGERS, Norfolk
Historian—MRS. M. H. HARRIS, West Point

Report of National Conference.

On November 4th and 5th, Mrs. R. M. Reynolds, President of the Woman's Auxiliary to the Medical Society of Virginia, and I attended the National Conference for Presidents, Presidents-Elect and Chairmen of Standing Committees. The Conference was held in the Hotel Sherman in Chicago. Thirty-five States and Hawaii were represented.

The meeting was called to order by Mrs. Luther Kice, National President, who presided. She was assisted by Mrs. David Allman, President-Elect.

Dr. Frank G. Dickinson, Bureau of Economic Research, A. M. A. gave a talk on Medical Economies in relation to the Woman's Auxiliary.

Dr. Fred Hein, Consultant on Physical Fitness, A. M. A. told us about School Health Programs. He suggested college courses in health instruction for teachers, instruction in health and healthful living for pupils, and school health councils; one member to be a representative of the medical profession, to meet with parents, teachers and supervisors to discuss health needs of the school.

Mr. William Doscher, Assistant Director of Public Relations, A. M. A. spoke on Auxiliary Public Relations.

Mr. Thomas A. Hendricks, Secretary, Council on Medical Service, A. M. A. reported on the Hoover Commission. Mr. Hendricks said, "new health legislation can be expected." "Mr. Oscar Ewing, Federal Security Administrator, who advocates Free Health and Free Medical Service for every one in the United States within ten years, will be head of any National Health Program." We were told, "it will cost $10,000,000,000 to start this program, not support it." "If everything is free who will pay it?" "Where will the money come from?"

Mr. Arthur Conrad, Assistant Administrator, National Physicians Committee for the Extension of Medical Care gave a spirited talk on Communism and the forces behind the drive for Socialized Medicine. He said, "Wake up, doctor's wives, Educate Yourselves, Read the Communist Manifesto." He told of the use in some states of school text books to spread communistic ideas and propaganda. He stressed the importance of right instruction and instructors for our young people in our fight against Communism and the major role they will play in this fight.

Dr. E. L. Bortz, Past President of the American Medical Association, said the Auxiliary is assuming its rightful role by helping in Public Relations. Medicine in 1949 will be at its cross-roads. He said organize and fight Socialized Medicine by exposing its evils.

Dr. Louis H. Bauer, Vice Chairman, Board of Trustees, A. M. A. told of the organization in September 1947 in Paris of the World Medical Association and some ways it promotes good will and friendship between nations.

We received a number of useful and interesting ideas from the discussion of state auxiliary activities by the presidents.

Thursday luncheon was served in the Rose Room for the conference members and that evening at 7:00 o'clock a conference dinner was held in the Crystal Room.

Mrs. William Bergin, Pepeekeo, Hawaii, presented to each one present a Hawaiian Orchid.

Friday luncheon was served in the Grey Room. After a business session the meeting adjourned.

MARION HOLDERBY (MRS. C. E.)
President-Elect

Presidents of County Auxiliaries.

NORTHAMPTON-ACCOMAC

Mrs. W. J. Sturgis, Sr., Massawadox.

RICHMOND

Mrs. Thomas Wheeldon, 6311 Three Chopt Road, Richmond.

DANVILLE-PITTSYLVANIA

Mrs. J. L. Jennings, Manchester Avenue, Danville.

PETERSBURG

Mrs. William Grossmann, 1762 Matoax Avenue, Petersburg.

ARLINGTON

Mrs. J. Robins McGriff, McLean.

ALEXANDRIA

Mrs. Harrison Picot, 804 Prince Street, Alexandria.

MID-TIDEWATER

Mrs. M. H. Harris, Box 250, West Point.

NORTHERN NECK

Mrs. A. B. Gravatt, Kilmarnock.

NORFOLK

Mrs. Mallory S. Andrews, 7609 Gleneagles Road, Norfolk.

WARWICK

Mrs. Chester D. Bradley, 222 Pocahontas Drive, Hampton.

BOOK ANNOUNCEMENTS

Pathology. Edited by W. A. D. Anderson, M.A., M.D., F.A.C.P., Professor of Pathology and Bacteriology, Marquette University School of Medicine, Milwaukee, Wisconsin. St. Louis, The C. V. Mosby Company, 1948. xii-1453. With 1183 Illustrations and 10 Color Plates. Cloth. Price $15.00.

Clinical Urology. Essentials of Diagnosis and Treatment. By LOWRAIN E. McCREA, M.D., F.A.C.S., F.I.C.S., Clinical Professor of Urology, Temple University Medical School; Attending Urologist, Philadelphia General Hospital. Second Edition. Philadelphia, F. A. Davis Company, 1948. xii-503 pages. With 263 Illustrations, 7 in Color. Cloth. Price $6.50.

A Brief History of the South Carolina Medical Association to which are added short historical sketches of various medical institutions and societies of South Carolina, VI, 197 p. front. port. illustrated. Published by the South Carolina Medical Association at its Centennial meeting, Charleston, 1948.

This attractive little history of the South Carolina Medical Association and its component societies should prove interesting to Virginians. The two States have much in common. Both, until quite recently, had an agricultural civilization, but in Virginia the planters lived on the farms whereas in South Carolina the planters lived in Charleston. Possibly for this reason the South Carolina Medical Association began its career with a botanical garden and a library with a paid librarian. I was surprised that its first fee bill makes no mention of obstetrics, especially since Dr. John Moultrie of Charleston was probably the first obstetrician in the Colonies. It is also surprising that as late as 1821 the charges were still expressed in pounds, shillings and pence. In 1850 the members of the State Association expressed indignation at the promiscuous way in which members of the clergy furnished testimonials for nostrums and threatened to cease giving free medical attention to the parsonage. At a later date a subsidiary society actually took such action. I learned many things that I never knew before from reading this book, such as: The South Carolina Medical Association was the Board of Health of the State of South Carolina, and that Dr. W. C. Norwood of Norwood's tincture fame was a South Carolinian. One statement, however, I must take exception to, and that is "There had been no state medical journals until 1899. South Carolina was the first Southern State to undertake publications of its own periodical."

The book is well illustrated. At the end of many chapters are interesting vignettes of saddle bags, medicine chests and scarifiers. Appropriately enough a scarifier is at the end of the chapter on "The Doldrums."

M. P. R.

EDITORIAL

Teaching Allergy to Undergraduates

ALLERGY is a subspecialty of internal medicine, a subspecialty, however, that because of its numerous impingements upon many other fields of medicine and the high incidence of the diseases due to it, should be accorded in its own right a prominent and respected position in the family of medical specialties. To attempt to separate allergy too far from internal medicine or from the other specialties would be a dangerous experiment.

David P. Barr, professor of medicine at Cornell University, several years ago set forth in clear language the need of the internist for a broad and sympathetic understanding of these relationships. He reminds us that "the concept of altered reaction to bacterial and nonbacterial substances is one of the most important ideas of medicine today. It ranks with psychosomatic medicine, with the study of the circulatory apparatus, with bacteriology, with metabolism, and with clinical chemistry. It is relevant to the pathogenesis and affects the practical management of much more than one-half of all the diseases to which flesh is heir. It is part and parcel of internal medicine and no internist can be regarded as completely trained who is not thoroughly cognizant of the principles of sensitivity, of anaphylaxis and of the altered reaction of the body to proteins."

The allergist stands equally in need of knowledge of internal medicine, and he must not neglect the techniques by which the internist conducts his comprehensive and searching studies of the patient. It is incumbent upon the allergist to cultivate an awareness of related metabolic, upper and lower respiratory, circulatory, dermatologic, pediatric, and psychosomatic problems. A good allergist must first of all be a good internist.

The question naturally arises where and how these concepts are to be inculcated. That is a problem to which the American Academy of Allergy is now addressing itself, believing that the start must be made in our schools of medicine. Such surveys as have been conducted to date indicate in many instances a surprising deficiency in undergraduate instruction in allergy. Dr. Oscar Swineford's survey, reported in 1946, showed that of 31 schools questioned, 12 "offered little or no organized instruction in allergy", while in 14 others, instruction was obviously inadequate. It is astonishing to learn that in one of our top medical schools only two one-hour lecture periods are devoted to the subject. Inadequate undergraduate instruction is reflected at higher levels, internes and residents showing little interest in, or comprehension of the problems of allergy. Barr remarking on the sequel says, "It is more than deplorable that many young internists have been permitted to finish their training almost without contact with allergy and allergic thought. Some of them have been so crassly ignorant as to regard the whole specialty as a somewhat unnecessary and undesirable field."

There is evidence to show, however, that professors of medicine, deans of medical schools and curriculum committees are becoming increasingly anxious to assign allergy its proper place in the medical course. The approach appears to lie along a number of roads. It is beginning to be realized that the study of allergy as an undergraduate discipline is handicapped by the lack of coordination among various departments of the medical school, most of which are concerned at one time or another with the fundamental principles of allergy. Unnecessary overlapping and serious omissions can be avoided by the heads of departments sitting down with the curriculum committee and planning for the student's instruction in allergy and its asso-

ciated specialty, immunology, from the day he enters the medical college until his graduation.

The Academy of Allergy has set up what it regards as a minimal allergy curriculum. In its opinion each student should have at least twelve hours of instruction in anaphylaxis, the pathologic physiology of allergy, the clinical recognition of its manifestations, its etiologic diagnosis and its treatment. An allergy clinic in a teaching institution is regarded as *a sine qua non*. Like every other clinic in such an institution a good allergy clinic has two problems—the care of the sick and the education of future doctors of medicine. It will perform these functions best when its staff is composed of trained allergists; and when its laboratory equipment and technical assistants are not hampered by inadequate budgets. For those students who wish to emphasize allergy or to pursue it later as a specialty, elective courses should be a part of the curriculum.

Instruction in allergy promises to be best in those institutions in which research in the many unsolved problems of both immunology and allergy are attacked on the level of the basic sciences. So closely interknit are the problems of allergy and immunology and so intimately do they concern the internist that the allergist should become the hospital consultant not only in the situations involving clear cut allergic disease but also in those border-line cases in which the fundamental concepts of immunology and allergy may be involved. Such cooperation would mean much in a teaching institution where students are so sensitive and responsive to the attitudes of their professors.

After all is said and done however, much as we regret to admit it, undergraduate instruction in allergy depends largely for its success upon the resources, chiefly monetary, that are at its disposal. These come naturally from two sources, the budgetary allowances of the institution to the department, and funds earmarked for research by some public spirited individual or by one of the foundations which have so admirably furthered the progress of medicine in a number of other specialties. One still has to put something into the hopper if one expects to get something out.

WYNDHAM B. BLANTON

Public Schools and Public Health

THE immediate Past-President of the American Public Health Association is a staunch advocate of Federalized medicine. As Associate Chief of the United States Children's Bureau she had much to do with initiating and the conduct of the Emergency Maternal and Infant Care and she was an advocate of enlarging that service and extending it into the post-war period. At the recent meeting of the American Public Health Association in Boston, in her presidential address, she said that the only way of bringing health care to all the people is through a public program that is as freely available to the mothers and children as is our public educational system.

When so great an authority as Dr. Martha Eliot makes such a statement it behooves us to pursue her analogy and to determine just what are its implications. Since 1860 the public school system has been in operation in every State in the Union. The public school system is sometimes called the free school system, especially in the West. It is free only in the sense that the individual can patronize the school without incurring additional expense. He pays for it indirectly in taxes and these keep up as long as he lives.

What has been accomplished in the past 88 years in the way of the quality and quantity of education and how have the teachers fared?

The public schools in England, which are anything but free or public in the sense that we use the term in this country, and the private academies in this country like Phillips Andover, the Episcopal High School, Woodberry Forest, Staunton Military Academy, Randolph-Macon Academy, St. Christopher's or McGuire's here in Richmond, provide much sounder education than do the public high schools. This is true in spite of the fact that many problem children are sent to the private schools.

The location and management of the public schools have been the province of government for the past 88 years. Nevertheless it has failed to reach all the people. The percentage of illiteracy is still high. The figures of the draft boards have been frequently used to show that medicine has fallen down on its job, yet illiteracy was the cause for rejecting more draftees than any other factor.

How have the teachers fared under the public school system? It is notorious that public school teachers are the poorest paid of any educated class. Typists and secretaries get more money. Laboratory technicians are much better paid as are trained nurses. Beauty shop managers earn from $1820 to $6500 in comparison to high school teachers whose salaries range from $1056 to $1807. Manual labor pays much better than school teaching and even a cook or a domestic servant has more "take-home money".

In all fairness it should be borne in mind that in 1860 the need was great and much had to be done. At the same time the conditions in medicine were deplorable. There was little real knowledge of disease and the teaching in the medical schools was anything but good. Hospitals were few and their patients were either well-to-do or the very poor. The building of a hospital is much more expensive than the building of a school and the maintenance of a hospital is tremendously more expensive than the running of a school. The education of a doctor is a long and expensive process whereas the education of a teacher is comparatively simple. Yet in spite of these differences, medicine put its own house in order—unaided. The people in the United States are getting better medical care than any people on earth. The best of medical care is available to all who care to pay for it, and there are plans by which the people can budget their hospital and medical care costs. Any Blue Shield-Blue Cross subscriber can tell you that it is not expensive.

The Cost of Medical Care

AT the recent Middle Atlantic States Regional Conference in Philadelphia the cost of hospital care was seriously considered. The morning session was devoted to "What is the Responsibility of the Practitioner in Relation to Hospital Financing." Rufus Rorem presented the viewpoint of hospital administration, Rubin C. Buerki the professional viewpoint and F. A. Arestad the viewpoint of the American Medical Association. From the discussion, several definite impressions stand out. The accounting system should be such that the cost of every department at least, should be known, and as far as possible, the hospital charges should be so adjusted that each department should pay its own way. The day when endowments can be expected to take care of deficiencies is past, for the simple reason that no new endowments seem to be forthcoming and the existing endowments yield so little. Nor should anesthesia or x-ray department be made to pay for room and board or for the laboratory. The American Medical Association is concerned with corporations practicing medicine. The courts have held that this is illegal. Where diagnostic clinics come in under these rulings was not made clear. Someone suggested that they were not practicing medicine, but they were certainly adding to the overall cost of medical care. Dr.

Buerki said that doctors could do a lot to keep down the cost of hospital care. He cited an example that occurred when streptomycin was first available. He asked a doctor why he used $1700 worth of the new drug on a patient when it did not seem to be indicated. The reply was, "What difference did it make to the hospital, the patient could pay for it". Dr. Buerki's reply was that the publicity given to such bills made for unfavorable public opinion.

At the luncheon, Dr. Joseph Lawrence spoke on the "Washington Horoscope". The question that was asked him in Washington most frequently and the one he had the most trouble in answering was, "What can be done about the cost of medical care". It was easy to say that it had not advanced more than the cost of everything else;—food, clothing and housing, but that did not keep the legislators from taking a hand in solving the problem. The afternoon was devoted to discussing "Blue Cross-Blue Shield Commission Proposals", which is medicine's answer in helping the public meet this rising cost.

On our way home, we had the opportunity of visiting the newest teaching hospital, a beautiful example of plain surfaces, bright with glass and shining metal. It has 74 beds for obstetrical patients and accommodations to meet the needs of every sort of obstetrical patient, except the one with the lean pocketbook. There was a wing for infectious cases, a four bed ward and a four bed bassinet nursery for infected babies, a four bed ward and a four bed bassinet nursery for infected mothers and other accommodations for the patient who did not fit into either of the above categories. The entire wing was absolutely empty, which speaks for the good technic of the hospital. There were groups of two bed rooms with a glass enclosed four bassinet nursery in between, so that the mothers and fathers could see their offspring at all times. Other rooms had glass enclosed nurseries in the corner of the room. Then there were conventional rooms that were served by the general nursery, but here the infants had individual cubicles. All of this filled us with envy, but having just come from the conference on the cost of hospital care, we wondered if the architects had not sold the public "a bill of goods". If the public wants such luxury and can pay for it, ($23 a day with nurses' and obstetrical fees extra) it is all right of course, but the public should stop *griping* about the cost of medical care.

In this connection, at the Congress to Celebrate the 300th Anniversary of the Rotunda Hospital, the statement was made and backed up by figures, that the Dublin Hospital with the oldest and most primitive accommodations, got better results with the newborn baby than the National Hospital with all the latest nursery improvements. In our thinking and practices we should draw the line clearly between necessities and luxuries.

The World Medical Association

THE organization and purposes of the World Medical Association was discussed in the January issue of the *Monthly* (75:49, 1948.) In the November issue of the Connecticut State Medical Journal, Dr. Creighton Barker has an interesting account of the Second Annual Assembly of the World Medical Association that was held in Geneva, September 8, 9, 10, and 11. The first major item to be considered was the international pledge; what might be called a modern Hippocratic Oath except that the word *oath* has so many connotations in the many countries represented that the word *pledge* had to be substituted. It is called The Declaration of Geneva and is to be subscribed to "At the time of being admitted as Member of the Medical Profession:

"I solemnly pledge myself to consecrate my life to the service of humanity;

"I will give to my teachers the respect and gratitude which is their due;

"I will practice my profession with conscience and dignity;

"The health of my patient will be my first consideration;

"I will respect the secrets which are confided in me;

"I will maintain by all the means in my power, the honor and the noble traditions of the medical profession;

"My colleagues will be my brothers;

"I will not permit considerations of religion, nationality, race, party politics or social standing to intervene between my duty and my patient;

"I will maintain the utmost respect for human life, from the time of conception; even under threat, I will not use any medical knowledge contrary to the laws of humanity.

"I make these promises solemnly, freely and upon my honor."

The Association discussed such subjects as "The Status of the Medical Profession in Twenty-Three Countries", "The Advertisement of Patent Medicines", "Proposals Relative to Universal Medical Qualifications", "Unqualified Medical Practice", "Postgraduate Medical Education", "The Training of Specialists", "An International Code of Medical Ethics". The last subject to be discussed, National Health Insurance came in for the longest discussion. There seemed to be no question but that the lot of physicians in national health insurance countries was far from happy. The Association finally adopted unanimously the following twelve points which should govern whenever medical care becomes a part of Social Security:

1. Freedom of choice of physician by the patient. Liberty of physician to choose patient except in cases of urgency or humanitarianism.

2. No intervention of third party between physician and patient.

3. Where medical service is to be submitted to control, this control should be exercised by physicians.

4. Freedom of choice of hospital by patient.

5. Freedom of physician to choose the location and type of his practice.

6. No restriction of medication or mode of treatment by physician except in case of abuse.

7. Appropriate representation of medical profession in every official body dealing with medical care.

8. It is not in the public interest that physicians should be full time salaried servants of the government or Social Security bodies.

9. Remuneration of medical services ought not to depend directly on the financial condition of the insurance organization.

10. Any Social Security or insurance plan must be open to the participation of any licensed physician, and no physician should be compelled to participate if he does not wish to do so.

11. Compulsory health insurance plans should cover only those persons who are unable to make their own arrangements for medical care.

12. There should be no exploitation of the physician, the physician's services or the public by any person or organization.

Dr. Barker reports that a quarterly journal of international medicine is to be established. The original contributions will be published in the language of the country in which it originated, and there will be abstracts in French, Spanish and English. Dr. Morris Fishbein is to be the editor.

SOCIETIES

Northern Virginia Medical Society

The tri-yearly meeting of the Society was held in Front Royal, December 14, 1948. Doctors present were: John Adams, L. F. Hansbrough, W. E. Lynn, J. A. Miller, Conrad Gossells, C. E. Foley, George Murphy, F. W. Gearing, Jr., W. S. Carter, George Smith, Charles Bondurant, P. W. Boyd, R. K. Butler, Leslie Bell, Monford Custer, F. C. Downey, T. A. Gibson, E. L. Grubbs, E. L. Hopewell, J. M. Winkfield, F. D. Maphis, Jr., Edmund Horgan, C. H. Iden, T. C. Iden, D. M. Kipps, George Long, J. B. McKee, Harold Miller, Herman Pifer, C. L. Riley, Elizabeth Sherman, R. W. Stoneburner, L. K. Woodward and John Cadden.

The meeting was conducted by Dr. C. H. Iden of Berryville, Va., president of the society.

Case reports were presented by Dr. L. J. Hansbrough of Front Royal and Dr. John Adams of Winchester.

Dr. Harold Miller of Woodstock, discussed some of the highlights from the Medical Society of Virginia State Convention, held in Richmond during October.

The society was honored by two guest speakers. Dr. John P. Gallagher of Washington, D. C., Associate Professor of Neuro-surgery at Georgetown University, spoke on "Surgical Treatment Of Intractable Pain", and Dr. Theodore E. Woodward, of Baltimore, Md., Associate Professor of Medicine at the Maryland University School of Medicine, spoke on "Clinical Uses Of Chloromycetin and Auriomycin". Both papers were of unusual interest.

The following officers were elected for the coming year: President, Dr. Harold Miller, Woodstock; vice-president, Dr. James Miller, Winchester; and secretary-treasurer, Dr. F. D. Maphis, Jr., Strasburg.

Dr. George H. Murphy, pathologist for the Winchester Memorial Hospital, Winchester, was received into the society.

FRED D. MAPHIS, JR., *Secretary*

Danville-Pittsylvania Academy of Medicine.

The following have been elected officers of this Society for 1949: President, Dr. E. B. Robertson; vice-presidents, Drs. R. W. Garnett and H. H. Hammer; and secretary-treasurer, Dr. John J. Marsella.

The Fredericksburg Medical Society,

At its meeting on December 10th, elected the following officers for 1949: President, Dr. W. W. Butzner; vice-president, Dr. George Reynolds; and secretary-treasurer, Dr. Lloyd Moss.

Lynchburg Academy of Medicine.

At the annual business meeting held on December 13th, the following officers were elected for 1949: Dr. William T. Pugh will succeed to the presidency; Dr. H. H. Hurt, president-elect; Dr. S. H. Rosenthal, vice-president; and Drs. E. A. Harper and J. G. Holland, trustees. The secretary is to be named by the board of trustees.

Richmond Academy of Medicine.

At the annual meeting on December 14th, the following officers were elected for 1949: Dr. Harry J. Warthen, Jr., will succeed to the presidency; Dr. Henry W. Decker was named president-elect; Drs. Emily Gardner and Webster P. Barnes, vice-presidents; and Drs. Guy W. Horsley and R. D. Butterworth, members at large on the Board of Trustees. Dr. H. Hudnall Ware, Jr., retiring president, will be chairman of the Board of Trustees. The Christmas party followed a business session.

The Fourth District Medical Society

Held its annual meeting in Petersburg on December 14th, under the presidency of Dr. Herbert C. Jones. The scientific program consisted of talks by Dr. James L. Hamner, president of the Virginia Academy of General Practice; Dr. McLemore Birdsong, assistant professor of pediatrics, University of Virginia; Dr. M. Pierce Rucker, president, Medical Society of Virginia; and Dr. T. Duckett Jones, medical director of the Helen Jay Whitney Foundation of New York City.

The following officers for 1949 were elected: president, Dr. John A. B. Lowry, Crewe; vice-presidents, Drs. H. E. Whaley, Victoria, and L. P. Jones, Emporia; secretary-treasurer, Dr. William S. Sloan, Petersburg (re-elected); and chairman of the steering committee, Dr. William Grossmann, Petersburg.

The Smyth County Medical Society

Held its regular meeting at Hotel Lincoln, Marion, on December 15.

Dr. W. S. Schiff and Dr. C. C. Hatfield reported that a large number had been typed on the Red Cross Program.

Report by Dr. R. D. Campbell on the 1948 annual meeting of the Medical Society of Virginia was read.

It was voted that the Secretary write the Kiwanis Club of Saltville in appreciation of the dinner they served the Society in November. Dr. R. H. Harrington suggested that the Society meet with the service clubs as a means of promoting the medical side in the controversy over socialized medicine. It was also suggested that some arrangement be made to put a program on the radio station, the Secretary to contact the proper authorities.

The following officers were elected for the ensuing year: President, Dr. D. C. Boatwright, Marion; Vice-President, Dr. C. C. Hatfield, North Holston; Secretary-Treasurer, Dr. R. C. Potter, Marion; Dr. Walter S. Schiff was named to serve on the Board of Censors for three years.

Dr. Lewis E. Jarratt spoke on the progress which has been made by the A.M.A., the hospitals, the State of Virginia and the physicians themselves toward combating the present movement toward socialized medicine. This participated a lively discussion on the subject by various members which led Dr. C. C. Hatfield to move that the next meeting be a round table discussion on the ways and means this society has in the same effort. It was further moved that Dr. Jarrett get further facts and information in regard to this subject as it pertains to our local situation.

RICHARD C. POTTER,
Secretary-Treasurer

NEWS

A.M.A. To Fight Socialized Medicine.

What might be termed the "theme song" at the recent meeting of the American Medical Association in St. Louis was its opposition to socialized medicine and any form of *compulsory* sickness insurance as proposed by Federal Security Administrator Ewing. In order to make this fight, it was felt that there should be put on an educational campaign to awaken the doctor as well as the layman to the danger of a politically controlled *compulsory* health insurance system; that the people should be enlightened as to the superior advantages of American medicine over government controlled medicine; and that the nation as a whole should be urged to secure *voluntary* health insurance and prepaid medical care so as to have the kind of medical service desired.

One feature of the first meeting of the House of Delegates was the naming of the outstanding general practitioner of the year. Twenty-two names had been submitted by state societies from which the Board of Trustees selected three to be presented to the House. The winner by ballot was Dr. William L. Pressley of Due West, South Carolina.

Dr. Charles W. Putney,

Staunton, has resumed his practice there after taking a special course in surgery at the Cook County Graduate School of Medicine in Chicago.

University of Virginia Medical News.

On November 20th, Dr. J. Edwin Wood, Jr., Professor of Practice of Medicine, attended the Postgraduate Course of the American College of Physicians, held at the Massachusetts General Hospital, Boston, and addressed the group on the subject: "Low Sodium Diets in Vascular Disease, Physiology, and Therapeutic Considerations".

On November 22nd, the Postgraduate Program for House Officers presented as guest speaker Dr. Harris B. Shumacker, Jr., of the Indiana University Medical Center. Dr. Shumacker's subject was: "The Treatment of Peripheral Vascular Disorders".

Dr. Dexter M. Bullard, Superintendent of the Chestnut Lodge Sanitarium, Rockville, Maryland, lectured to the faculty and student body on the subject, "Limitations of Psychotherapy", on November 23rd.

Dr. J. Edwin Wood, Jr., spoke before the Pere Marquette Association of Railway Surgeons at White Sulphur Springs, West Virginia on November 29th, on the subject: "The Advantages and

Dangers of the Low Sodium Diet in the Treatment of Cardiovascular Conditions."

On December 3rd, under the auspices of Pi Mu Chapter, Phi Chi Medical Fraternity, Dr. Edmund B. Spaeth of the Graduate School of Medicine of the University of Pennsylvania, spoke to the faculty and student body on the subject "Pathological Oculomotor Reflexes, Congenital and Acquired".

Dr. L. G. Sewall of the Veterans Administration Hospital, Roanoke, spoke to the faculty and student body on the subject, "Vocational Rehabilitation", on December 2nd.

On December 9th, Dr. J. Edwin Wood, Jr., spoke before the Postgraduate Course in Medicine, sponsored by the Extension Division of the University of North Carolina, Shelby, North Carolina, on the subject: "The Management of Cardiovascular Diseases and Renal Diseases in General Practice."

On December 10th, Dr. Charles Venable, Chief Surgeon, Nix Hospital, San Antonio, Texas, presented to the faculty and student body the second lecture in the series of Annual Charles Scott Venable Lecture on Traumatic Surgery. Dr. Venable spoke on the subject: "Transposition of Bone Chips or Muscle Implants in Early Closure of Osteomyelitis, with Antibiotic Control."

Dr. Harry Gold of the School of Medicine, Cornell University, spoke to the faculty and student body on the subject "Digitalis" on December 13th.

On December 14th, Alpha Omega Alpha, National Honorary Medical Fraternity, presented as guest speaker, Dr. Leo H. Bartemeier of Wayne University, Detroit, Michigan. Dr. Bartemeier's subject was: "Sleep and Its Disturbances."

Industrial Health.

The annual Congress on Industrial Health will be held on January 18 and 19 at the Drake Hotel, Chicago. The opening general session on the 18th will define the purposes of the Congress, and the operation of the panels. The keynote address on the worker's interest in health will be presented by an outstanding labor leader. A symposium will also be conducted on "New Horizons in Industrial Health" to be participated in by Surgeon General Leonard A. Scheele of the Public Health Service, President Ned Dearborn of the National Safety Council, and President Joseph G. Norby of the American Hospital Association.

The Congress will then resolve itself into four panels—Scope and Distribution of Medical Service in Industry; Environmental Hygiene; Medical Aspects of Industrial Human Relations; and Health Education.

Three half-day sessions are available for each panel on Tuesday afternoon, January 18 and on Wednesday morning and afternoon, January 19, with a final summarizing session on the 19th. Although intended primarily for professional people, representation from labor, management, insurance and other interested groups will be invited.

Dr. A. Kay Dawson

Has returned to Richmond to become chief of physical medicine rehabilitation at McGuire Veterans Administration Hospital. For the past year he has been with VA's central office in Washington where he was in charge of physical medicine rehabilitation for the nation.

Southern Surgical Association.

At the annual meeting held at White Sulphur Springs in December, Dr. Alfred Blalock, Baltimore, was elected president, and Dr. J. M. Emmett, Clifton Forge, first vice-president.

Dr. Robert P. Trice,

Richmond, has been elected president of the Richmond alumni chapter of Kappa Sigma, social fraternity, for the year 1949.

Southern Psychiatric Association.

At the meeting of this Association in Dallas, Texas, December 6-7, Dr. Walter J. Otis, New Orleans, an alumnus of the Medical College of Virginia, succeeded to the presidency. Dr. R. Finley Gayle, Jr., Richmond, was named president-elect.

Annual Spring Graduate Course.

The Gill Memorial Eye, Ear and Throat Hospital, Roanoke, will present its twenty-second annual Spring Graduate Course in ophthalmology, otology, rhinology, laryngology, facio-maxillary surgery, bronchoscopy and esophagoscopy, from April 4-9, 1949.

Guest speakers include: Drs. Banks Anderson, H. W. Brown, W. B. Clark, W. B. Dearring, W. W.

Eagle, Harold Falls, E. P. Fowler, Jr., Leslie Gay, L. P. Garrod, Glen G. Gibson, C. L. Jackson, Carl C. Johnson, A. C. Jones, Harold H. Joy, Peter Kronfeld, John S. Lundy, Louis Panfique, Peter N. Pastore, Bernard Samuels, E. W. Sheldrup, Albert E. Sloane, Claire L. Straith, A. Earl Walker, Henry Williams, and Mr. L. A. Watson.

Requests for registration should be addressed to Dr. E. G. Gill, 711 South Jefferson Street, Roanoke.

International Congress on Rheumatic Diseases.

The first International Congress on Rheumatic Diseases ever held in the United States will take place at the Waldorf Astoria in New York May 30 to June 3, 1949 inclusive. This seventh International Congress is sponsored by the International League against Rheumatism. The host is the American Rheumatism Association in cooperation with the New York Rheumatism Association.

The Congress has the official sanction of the United States Department of State which will cooperate in the issuance of official invitations. This is an open meeting. Members of the International, the European, and the Pan American Leagues against Rheumatism as well as the Canadian Rheumatism Association, British Empire Rheumatism Council, the Heberden Society of London, and the ten state or city Rheumatism Societies affiliated with the American Rheumatism Association are especially invited.

The annual American Medical Association scientific convention will be held in Atlantic City (3-4 hours from New York) during the week following the Congress (June 6 to June 10, 1949) after which a post-convention tour has been planned.

The American Academy of General Practice

Will hold its annual scientific assembly in Cincinnati, March 7-9. This is the first annual scientific meeting and more than 2,000 doctors are expected to attend. Twenty outstanding clinical teachers, of recognized ability as speakers, will present lectures dealing with the questions that a general practitioner encounters in his daily rounds.

Married.

Dr. James Nicholas Dudley and Miss Virginia Baird Decker, both of Roanoke, November 20th.

Dr. A. I. Dodson,

Richmond, was an invited guest at the Post-Graduate Medical Assembly of Southwest Texas, held in Houston, December 7-9. He gave four lectures—Diagnosis of Tumors of the Kidney; Present Day Views in Treatment of Cancer of the Bladder; Management of Calculous Disease of the Kidney; and The Significance of Hematuria—and held a question and answer period on urology.

"Lucky Junior."

Progress in medicine in the State of Michigan, and the story of progress against the diseases of childhood is the theme of a new sound motion picture "Lucky Junior" produced for the Michigan State Medical Society, by The Jam Handy Organization.

The picture stresses the importance of immunization and of the family doctor who understands and treats each of his little charges as an individual and not as just another unit of our modern system of mass production. The story is told by a kindly family doctor who reminisces, after just bringing into the world the child of the first baby he had delivered some thirty years before.

While medical science has not as yet been able to prevent rheumatic fever, our doctors are learning the best way to treat the disease so that the child recovers with the least possible damage to the young heart. With voluntary non-profit medical and hospital service plans available to everyone and with rheumatic fever control centers strategically spread throughout the state, the child born in Michigan today is indeed a Lucky Junior, which is the title appropriately selected for this motion picture. Further information regarding this film may be obtained by writing to Mr. Hugh W. Brenneman, Michigan State Medical Society, 2020 Olds Tower Building, Lansing 8, Michigan.

Dr. Dean B. Cole,

Richmond, was recently elected president of the American College of Chest Physicians, Southern Chapter, at its meeting in Miami Beach.

New Secretary-Treasurer.

Miss Mabel E. Montgomery, director of the nursing school and executive director of Stuart Circle Hospital, Richmond, has been named secretary-treasurer of the Virginia State Board of Nurse Examiners, succeeding the late Miss Josephine McLeod.

Pratt Clinic.

The Fredericksburg Medical Center has been renamed the Pratt Clinic in honor of Dr. Frank C. Pratt, prominent physician of Fredericksburg for the past 40 years. He helped organize the clinic in 1936.

Medical College of Virginia News.

Dr. Harvey Haag, Professor of Pharmacology and Dean of the Medical School, recently addressed the research staff of Smith, Kline & French Laboratories, Philadelphia, and visiting physicians. One of a regular series of research talks, Dr. Haag's report described a group of investigations which for the first time offered a quantitative measurement of irritation to mucous membranes based on edema formation. The method was developed at the Medical College of Virginia during a fifteen-year study of the irritating effect of tobacco and nicotine. Dr. J. K. Finnegan and Dr. P. S. Larson, of the Department of Pharmacology of that institution, are largely responsible for evolving the procedure.

To meet the need for more physicians, the Board of Visitors of the College have appointed a committee to study the possibility of increasing the number of students permitted to enter the School of Medicine of the college. This year only 84 students could be selected from 550 completed applications for admission. The current enrollment in the four classes of the School of Medicine of the college is 326.

Dr. W. T. Sanger, President, reported at a recent meeting of the Board of Visitors gifts totaling $58,002.91 for November. Topping the list were two from the Navy Department, Office of Naval Research, one for $13,370.00 and the other for $19,668.00.

Dr. Harry Gold, Professor of Clinical Pharmacology at Cornell University, School of Medicine, spoke at the College on December 14, under the sponsorship of the Phi Delta Episolon medical fraternity on the subject of "An Optional Routine for the Treatment of the Failing Heart."

New Books.

The following are among recent books acquired by the Library of the Medical College of Virginia and are available to our readers under usual library rules:

Advances in genetics. Vol. II.
Anderson—Pathology.
Health instruction yearbook—1948.
Karpman—The alcoholic woman.
Lewis—An introduction to medical mycology.
Lief—The commonsense psychiatry of Dr. Adolph Meyer.
MacKenna—Modern trends in dermatology.
Recent advances in venereal disease. A symposium.
Robert Gould Research Foundation, Inc.—Symposia on nutrition. Vol. I.
Ryle—Natural history of disease. 2d ed.
Shepherd—Essentials of public health.
Sinai and Anderson—Emergency maternity and infant care.
Swezey—After dinner science.
Warkentin—Physician's handbook. 5th ed.
Young—The skull, sinuses and mastoids; a handbook of roentgen diagnosis.
Year book of the eye, ear, nose and throat—1948.
Year book of general medicine—1948.

Dr. Joseph F. Phillips,

Recently at the Central State Hospital, Petersburg, is now located in Chase City.

Dr. L. H. Alexander,

Recently of Newport News, has located for practice in Smithfield.

Dr. Walter L. Nalls,

Who for the past year has been with the Veterans Administration at Oteen, North Carolina, has returned to Alexandria and re-opened his office at 105 North Alfred Street for the practice of internal medicine.

Fredericksburg Hospital to Erect New Building.

The Mary Washington Hospital, Fredericksburg, has completed plans for a 100-bed modern hospital building, the main portion having five stories and a basement and an administration wing consisting of two floors and a basement. The building is expected to cost more than $1,000,000 and is to be built on land donated by the City of Fredericksburg.

Dr. C. Howe Eller,

Richmond City Health Director, has been elected for a five-year term to the governing council of the American Public Health Association as the representative of the association's health officers section.

American Cancer Society.

Dr. C. C. Nesselrode, Kansas City, has recently been elected president of this Society, succeeding Dr. E. P. Lehman, University of Virginia. Dr. Lehman will continue as a director.

The Seaboard Medical of Virginia and North Carolina Association

Held its annual meeting in Elizabeth City, North Carolina, December 7-9, under the presidency of Dr. Zack D. Owens of that city.

New officers elected for the ensuing year are: President, Dr. Russell Buxton, Newport News; vice-presidents, Drs. F. T. Hunter, Warrenton, N. C., B. L. Parrish, Norfolk, Everett Sawyer, Elizabeth City, and W. L. Taliaferro, Norfolk; and secretary-treasurer, Dr. Clarence Porter Jones, Newport News (re-elected).

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Wanted.

General practitioner for North Carolina mountain resort with wide opportunities for recreation, hunting, fishing. Minimum guarantee $5400 annually with a good opportunity to increase the guarantee. Fully equipped four room office with all utilities furnished, rent free. Modern three bedroom electrically heated house, rent free. Applicants should have North Carolina license or be eligible for reciprocity. Please give full details concerning age, professional background, etc., in first reply. Address inquiries to O. A. Fetch, Resident Manager, Fontana Dam, North Carolina. (*Adv.*)

OBITUARIES

Dr. Andrew George Shetter,

Well known Richmond physician, died December 13th, having been in ill health for some time. He was a native of York, Pennsylvania, and sixty-one years of age. Dr. Shetter graduated from the Medical College of Virginia in 1917. He was a Mason and a Shriner and had been a member of the Medical Society of Virginia for twenty-four years. His wife and two sons survive him.

Dr. George Lee Smith,

Physician and dairy farmer of Richmond, died November 22nd. He was a native of Pittsylvania County and seventy-nine years of age. Dr. Smith graduated from the College of Physicians and Surgeons, Baltimore, in 1892. He was well known throughout Virginia as a dairy farmer, having operated dairy farms in Warwick, James City and King William Counties. Dr. Smith had been a member of the Medical Society of Virginia for forty-two years and at the 1948 meeting was one of those made a Life Member for having practiced for more than fifty years. Four children survive him.

Dr. William Armistead Gills,

MC., USN., retired, died November 23rd at his home in Norfolk. He was seventy-two years of age and a graduate of the Medical College of Virginia in 1900. Dr. Gills was at one time professor of anatomy at the College and engaged in private practice in Richmond. He had been a resident of Norfolk since 1933. Dr. Gills was a veteran of World War I and retired from the Navy in 1923. He was formerly a member of the Medical Society of Virginia. His wife survives him.

Dr. Russell E. Blankinship, Jr.,

Lynchburg, died November 28th, at the age of twenty-five. He was a graduate of the Department of Medicine, University of Virginia, in the class of 1948, and was serving his internship at the Marine Hospital, Staten Island, New York, at the time of his death.

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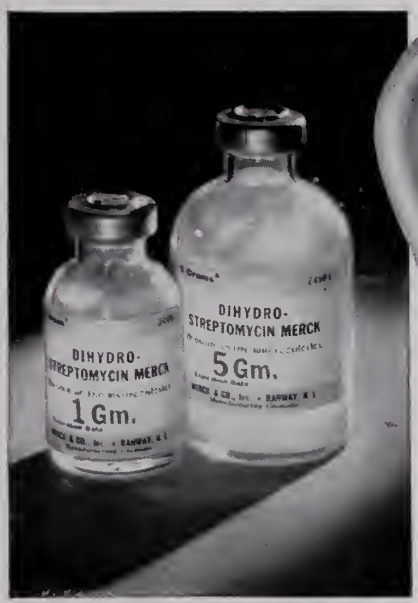

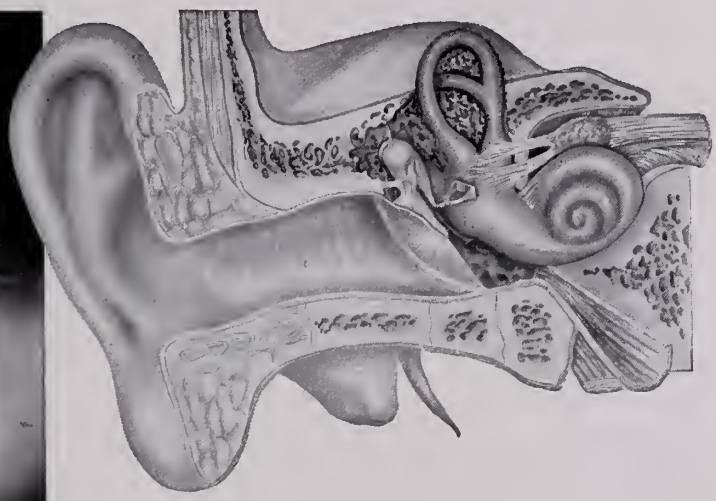

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It Can Happen Here

Example of severe rickets in a sunny clime.

LEST WE FORGET—we who are of the vitamin D era—severe rickets is not yet eradicated, and moderate and mild rickets are still prevalent. Here is a white child, supposedly well fed, if judged by weight alone, a farm child apparently living out of doors a good deal. This boy was reared in a state having a latitude between 37° and 42°, where the average amount of fall and winter sunshine is *equal to that in the major portion of the United States.* And yet such stigmata of rickets as *genu varum* and the quadratic head are plain evidence that rickets does occur under these conditions.

How much more likely, then, that rickets will develop among city-bred children who live under a smokepall for a large part of each year. True, vitamin D is more or less routinely prescribed nowadays for infants. But is the antiricketic routinely administered in the home? Does the child refuse it? Is it given in some unstandardized form, purchased from a false sense of economy because the physician did not specify the kind?

A uniformly potent source of vitamin D such as Oleum Percomorphum, administered regularly in proper dosage, can do more than protect against the gross visible deformities of rickets. It may prevent hidden but nonetheless serious malformations of the chest and the pelvis and will aid in promoting good dentition. Because the dosage is measured in *drops*, Oleum Percomorphum is well taken and well tolerated by infants and growing children.

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CONTENTS

Guest Editorial. George F. Lull, M.D. ---------- 55

Recent Advances in Antibiotic and Sulfonamide Therapy. Harrison F. Flippin, M.D., and William P. Boger, M.D., Philadelphia, Pa. ---------- 56

Acute Respiratory Infections. Harvey C. Brownley, M.D., Lynchburg, Va. ---------- 63

The Diagnosis and Treatment of Pareses of the Obliques. William P. McGuire, M.D., Winchester, Va. ---------- 69

The Medical Aspects of the Atomic Bomb. W. B. Looney, M.D., Richmond, Va. ---------- 73

Ano-Rectal Disease: Incidence in 300 Males of Military Age with Particular Reference to Polyposis. Francis R. Whitehouse, M.D., F.A.C.P., Lynchburg, Va. ------ 76

The Effect of the Moon on Childbirth. Albert G. Schnurman, M.D., Roanoke, Va. ---------- 78

Pre-Occupation with Painful Memories as Basis for Neurosis and Physical Illness. John Taylor Ransone, M.D., Newport News, Va. ---------- 79

Congenital Tuberculosis—A Case Report. McLemore Birdsong, M.D., and Camillus S. L'Engle, Jr., M.D., Charlottesville, Va. ---------- 83

The Professional Responsibility in the Control of Cancer. Wm. H. Higgins, M.D., Richmond, Va. ---------- 86

Factors in Pregnancy Affecting the Newborn. F. N. Mullen, Jr., M.D., Norfolk, Va. ---------- 88

Continued on page 6.

Annual Meeting
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PARKE, DAVIS

Virginia Medical Monthly

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RICHMOND, VA., FEBRUARY, 1949

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GUEST EDITORIAL

Progress in American Medicine

PROGRESS in American medicine is an achievement which we, as doctors, are proud to relate to the general public.

Yet, for some time now, many stories reaching lay readers have dealt with isolated cases of distress, indicting the medical profession, along with articles based on glib promises of social planners.

During the ensuing year, the medical profession must concentrate its efforts on one problem: to tell the American people about the many contributions which the medical profession has made to alleviate disease, preserve life and postpone death. Our story must stress the importance of our present system of voluntary care and present the true facts about medical care and health protection.

The House of Delegates of the American Medical Association, at the Interim Session in St. Louis, fully recognized these problems by creating a means for carrying on a nationwide health education program. To finance this program an assessment of $25 was made on each member of the American Medical Association. Members of the American Medical Association do not pay dues. If they desire to become Fellows of the Scientific Assembly they make application and pay $12 a year dues, which include a subscription to The Journal. This hardly pays for the paper and printing; notwithstanding the fact that the doctor receives the best medical periodical published anywhere in the world.

In 1947, the expenses of the Association exceeded income. For that reason dues of Fellows were raised from $8 to $12. However, even higher costs have kept apace with this raise and the Association may show a net loss for 1948.

The medical profession as a whole is of the firm opinion that government control of medicine would lower the standards of medical care in the United States, and is so sincere in this belief that it feels everything possible should be done to prevent such control from being thrust upon us.

A coordinating committee has been formed to help solve many of the problems which we face, and it is enlisting the support of every physician. This committee is composed of Dr. E. L. Henderson, chairman, Dr. Edward S. Hamilton, Dr. Gunnar Gundersen, Dr. Walter B. Martin, Dr. Louis H. Bauer, Dr. John W. Cline, Dr. William Bates, Dr. R. B. Robins, Dr. R. L. Sensenich, and Dr. George F. Lull.

GEORGE F. LULL, M.D.

EDITOR'S NOTE.—Dr. Lull is secretary and general manager of the American Medical Association.

272489

RECENT ADVANCES IN ANTIBIOTIC AND SULFONAMIDE THERAPY*

HARRISON F. FLIPPIN, M.D.,
and
WILLIAM P. BOGER, M.D.,
Philadelphia, Pennsylvania.

Within recent months a number of new antibiotics have become available for clinical trial and there is reason to believe that within the very near future we will have specific therapeutic agents for both virus and rickettsial diseases. From the standpoint of the practicing physician, however, the most significant contributions have been concerned with the original antibiotic, penicillin.

The availability of penicillin at a reasonable cost has lifted, to a great extent, restrictions that may have existed in the past regarding the daily, or total, requirement of penicillin. This is a fortunate circumstance, but it should not lead to the practice of using wastefully large doses when they are not needed or to employing penicillin when it is not indicated. Heralded as a comparatively nontoxic drug, penicillin continues to give remarkably few serious untoward manifestations. But, those who have encountered cases showing severe sensitizations realize the potentialties of serious toxic effects associated with its use.

The widespread use of penicillin on the one hand has demanded that investigations be directed towards supplying the drug in forms that permit modification of dose schedules to meet any occasion, and, on the other, has contributed to a better understanding of the mode of action of penicillin. Some of the unorthodox dose schedules, employed by necessity, or for reasons of convenience, have demonstrated that the therapeutic results obtained have, in many instances, been comparable to those achieved by more conventional forms of therapy. It is the purpose of this paper to correlate some of the facts concerning the available forms of penicillin and to discuss certain observations regarding the action of penicillin, thereby justifying some of the current trends towards modification of penicillin dosage schedules and the employment of combinations of antibiotics, and/or sulfonamides.

Plasma concentrations of penicillin that might result following any given dose (a dose-time response curve) are presented schematically (Chart I). The resulting concentration might fall into the

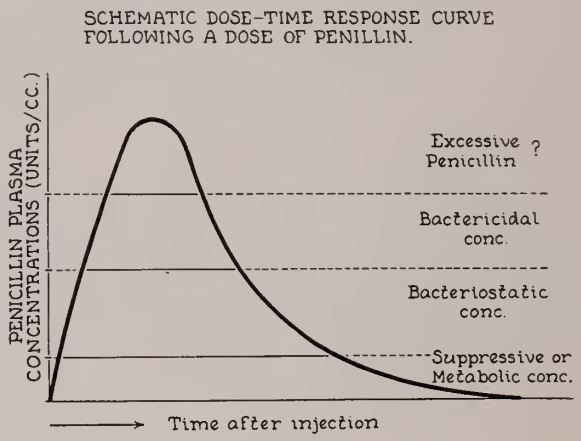

CHART I

designated four ranges depending upon the specific organism under treatment; penicillin may be bactericidal, actually destroying the organisms, or bacteriostatic, preventing the multiplication of the organisms, or, as the concentration falls still further, the bacteria may be damaged by the interference of penicillin with the enzyme systems of the organisms and, although the organisms are able to multiply, their rate of multiplication is less than normal[1]. One of the most interesting examples of the interference of penicillin with bacterial metabolism is the observation of the reversal of the gram stain and the ability to restore gram-positivity after it has been lost under the influence of penicillin, by the addition of various enzymes[2]. The duration of this adverse metabolic phase is the time required for the organisms to regain their normal rate of multiplication once penicillin has fallen below a bacteriostatic level. The duration of action of a dose of penicillin, which produces bactericidal, bacteriostatic, or adverse metabolic effect might well be designated as the total penicillin effect time upon the organism under treatment. The specific total penicillin effect times of various or-

*From the Medical Department of the Philadelphia General Hospital, Philadelphia.

Presented by invitation before the meeting of the Medical Society of Virginia, Richmond, October 20, 1948.

ganisms are as yet poorly defined, particularly in patients during active infection.

It may be observed that concentrations in excess of bactericidal ones have been indicated. It is contended by some[3] that penicillin therapy that gives rise to such concentrations is in effect wasted and that a zone phenomenon may actually result if the optimal bactericidal concentrations are exceeded. This concept, arising from experimental investigations, awaits clinical confirmation. It seems worth while to point out, however, that about the only way to achieve optimally bactericidal concentrations for an appreciable length of time without exceeding them is to administer penicillin by continuous infusion which is, in itself, an extravagant usage of penicillin, by reason of the rapidity of renal excretion of the antibiotic. In this connection, it has been suggested that intermittent treatment might be more effective than continuous treatment[4]. This suggestion is based on the observation that some bacteria are killed by penicillin only while they are multiplying. Hence, a continuously maintained level of penicillin may suffice to hold an infection in abeyance by inhibiting the growth of bacteria, but fail to kill those organisms which are present in a physiologically inactive phase. These hypothetical resting organisms, persisters, may become vulnerable to the action of penicillin only if they are permitted to resume multiplication. It is also of interest that therapy giving a continuous bacteriostatic effect results in less antibody formation than if therapy is intermittent[5], in which case opportunity is afforded for some multiplication of the bacterial population.

From the foregoing, it is natural to inquire whether it is more desirable to achieve transitory bactericidal levels of penicillin intermittently, or to maintain concentrations that may approximate the bactericidal range, but certainly fall within the bacteriostatic range at all times during therapy. There seems to be no final answer to the question at this time, but a consideration of the effects of penicillin upon a bacterial population producing disease suggests that both approaches to treatment may have merit.

Some understanding of the success following treatment with widely separated penicillin injections can be gained from the examination of the three phases of penicillin activity (Chart II) in terms of the effect on bacterial population producing the infection. Regardless of the size of any single dose of penicillin, it is doubtful whether the entire population of bacteria can be destroyed by bactericidal action alone, and, although the patient may recover from the infection without additional therapy, it cannot be presumed that the initial therapy by itself effected cure. When this sequence of events is observed, it implies that the infecting bacterial population has been so drastically re-

DEATH-GROWTH CYCLE OF BACTERIAL POPULATION UNDER THE EFFECT OF PENICILLIN.

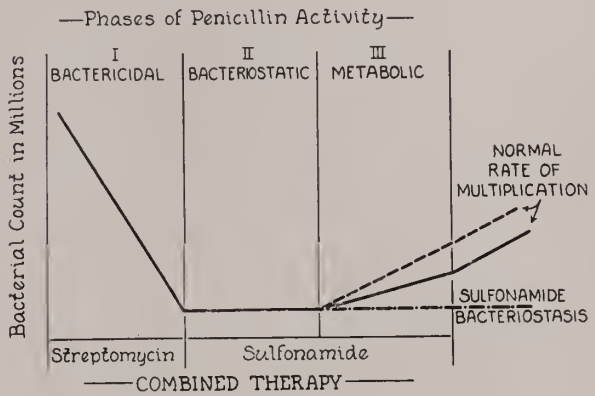

CHART II

duced and the surviving organisms so damaged, and therefore more vulnerable, that body defense mechanisms are able to control the infection. As yet, we are not convinced that many infections can be treated according to this pattern, although large experience has demonstrated that gonorrhea can be so treated[6] and in the treatment of pneumococcal infections, certain observations have been made which would support the above thesis[7]. It should be emphasized, however, that both gonococci and pneumococci are highly susceptible to penicillin and penicillin concentrations that escape detection by ordinary methods of penicillin assay may be bactericidal, bacteriostatic, and adversely metabolic in effect, accounting, therefore, for the successful treatment of these infections in some cases without attaining detectable concentrations of antibiotic in the plasma. It is pertinent to mention that most of our penicillin thinking is predicated upon experience with infections extremely susceptible to therapy with this agent, i.e., gonorrhea, pneumonia, and syphilis. There are broader considerations concerning the use of penicillin than are encompassed by experience in the treatment of these susceptible infections.

Plasma concentrations of penicillin were omitted from Chart I advisedly, as we wish to emphasize the importance of determining the sensitivity of the invading organism before instituting therapy. Although a level of 0.03 units per c.c. of plasma has been considered as a therapeutic concentration and is effective in many types of infections, one may enjoy a false sense of security in relying on this concentration for the treatment of all types of infections susceptible to penicillin. Furthermore, when treating infections extremely sensitive to penicillin, such as pneumococci, gonococci, and the spirochetes of syphilis, this concentration is actually higher than is needed. The measurement of penicillin plasma concentrations has been called into question, indeed there are those who contend that they are of no significance. It is true that tissue levels of penicillin may actually be higher than those existing in the circulating blood and that significant amounts of penicillin are excreted in the urine long after the amounts in the blood have fallen below the levels of detection, so some questions regarding the significance of plasma concentrations may be asked. These observations clearly indicate that the amounts of penicillin measured in the plasma are only an indirect evidence as to the amount of penicillin being delivered at the actual focus of infection, but do not invalidate the importance of plasma concentrations. The fact seems to be that many infections are so susceptible to penicillin therapy that little attention need be paid to penicillin plasma concentrations or in vitro testing of organism sensitivity because any of the usual dosage schedules will effectively control the infection. Only in the treatment of more resistant infections can the significance of penicillin plasma concentrations be more clearly interpreted in terms of bactericidal, bacteriostatic, and adverse metabolic effects.

It must be emphasized that the actual duration of these three phases of penicillin activity depends largely on the sensitivity of the offending organism, or its relative resistance to the action of penicillin. It would appear that organisms are more vulnerable to the effects of penicillin during multiplication. Therefore, if the death-growth cycle (Chart II) of a particular organism is short, it will be necessary to attain bactericidal penicillin concentrations fairly frequently. On the other hand, if the death-growth cycle is long (there is indication that this is true of the treponema pallidum), the attainment of bactericidal levels at more widely separated intervals will be effective. In addition to the immediate bactericidal action of a given dose of penicillin, a bacteriostatic one is maintained for a varying interval of time, during which the surviving organisms do not multiply. As penicillin concentrations decline toward zero, the organisms begin to multiply, at first at a rate slower than normal, but returning to a normal rate of multiplication when penicillin completely disappears from the body. If the body has not gained control of the infection by this time and no further treatment is given, the infection will recur. If, however, an additional penicillin injection is administered, a bactericidal effect will again be exerted and on a bacterial population that has been reduced by previous therapy. Each repetition of the penicillin dose will further reduce the total number of invading bacteria and the bactericidal effect will be greatest if administered while bacteria are multiplying. Hence, optimal penicillin therapy would be initiated with a large enough dose of antibiotic to give a maximal bactericidal effect and subsequent doses should be administered at intervals designed to attack the surviving organisms during a phase of multiplication, but before the bacterial population has begun to multiply at a rate approaching normal.

Streptomycin and sulfonamide therapy may be fitted into this pattern. Streptomycin exerts a predominantly bactericidal action. These organisms that survive the first streptomycin onslaught rapidly give rise to a resistant bacterial population and the rapidity with which infections lose their susceptibility to streptomycin therapy represents the most serious limitation of therapy with this agent. Experience is showing that the time to attain the greatest benefit from streptomycin is the first time it is used and it should be employed in full dosage. The rapidity with which resistance to streptomycin is developed precludes a schedule of step-wise increases. Although there is ample evidence to show that many bacteria become resistant to streptomycin, the same cannot be said regarding penicillin. Reexamination of the problem calls into grave question the existence of resistant strains of gonococci and pneumococci, but has established that staphylococci and streptococci do acquire resistance. It seems highly probable that many reported instances of resistance to penicillin therapy represent inade-

quate therapy, rather than the development of truly resistant strains of organisms.

Most of the evidence concerning the synergistic or additive effect of the antibiotics and sulfonamides has come from the laboratory[8], but one can see definite possibilities for the clinical application of combined antibiotic and/or sulfonamide therapy. The additive bactericidal effect of penicillin and streptomycin can be employed to reduce the bacterial population at the beginning of therapy to a degree not possible with either drug alone, thereby leaving fewer bacteria to multiply and continue the infection. Sulfonamides exert a primarily bacteriostatic effect so that it appears entirely feasible to reduce the bacterial population to the lowest possible level with bactericidal agents and then maintain bacteriostasis with sulfonamides so that subsequent doses of the bactericidal agent will further reduce the number of surviving organisms. In the treatment of the more severe infections that are known to respond to several agents, a combination of the most effective drugs is definitely indicated. Already there have been interesting examples of successful therapy with drug combinations, streptomycin-sulfadiazine for the therapy of Brucellosis, penicillin-bacitracin for the treatment of rabbit syphilis, penicillin-promin, penicillin-para-aminosalicylic acid for the therapy of tuberculosis.

Information regarding the phases of penicillin activity can be obtained from in vitro studies but it is much more difficult to do so in the clinic. Nevertheless, we would like to suggest that some of the newer schedules of therapy as well as the more established ones can be rationalized in terms of the above phases of penicillin activity. Immediately following the administration of penicillin (it is assumed that the dose employed is adequate for the treatment of the infection under consideration), bactericidal concentrations are obtained and it is probable that with the intermittent administration every two to three hours, the plasma concentrations of antibiotic are maintained within bactericidal and bacteriostatic ranges, with little advantage being taken of the suppressive or metabolic penicillin effect, a period of time during which bacteria may multiply but at a slower than normal rate. It is doubtful if the organisms ever have the opportunity to multiply during therapy that calls for penicillin every two to three hours. It is interesting in this connection to speculate whether the complete suppression of bacterial growth results in the development of fewer antibodies and consequently less immunity of the host than if at some period during therapy a few organisms multiply to a limited extent during short intervals when penicillin concentrations fall below a bacteriostatic level. Pertinent to this discussion is the observation that the maintenance of continuous antibacterial penicillin concentrations results in the formation of less antistreptolysin than when antibacterial concentrations are maintained for only a fraction of the day.[5]

Only recently have dose schedules been proposed that take full advantage of the bactericidal and bacteriostatic phases and to a limited extent of the adverse metabolic or suppressive phase of penicillin action. Most of us have unwittingly employed a modification of this newest schedule of therapy when we have omitted the night doses of our patients purely for convenience. In some hospitals, the trend toward injections at more widely separated intervals was the result of acute nursing shortages. Whatever the actual origins of this form of treatment, larger single doses (100,000 to 300,000 units) of crystalline penicillin in aqueous solution at intervals of every 8 to 12 hours are currently being advocated. Patients so treated respond quite as well as those receiving more conventional therapy.

Actually, doses of this magnitude furnish concentrations of penicillin in the plasma that are in the bactericidal range for pneumococci, gonococci and many streptococci for the greater part, if not the whole of the interval between injections. Immediately and shortly after the injection of such a dose, however, the minimal bactericidal and bacteriostatic levels are exceeded by a hundred or more times; this being so, it is hard to reconcile the excellent therapeutic results with the concept that excessive concentrations of penicillin may be detrimental[3].

It has been remarked earlier in this paper that there is a tendency to overlook in the average discussion of penicillin therapy the fact that there are some infections susceptible to penicillin that nevertheless require doses large enough to insure plasma and tissue concentrations measured in whole units of penicillin per c.c., as opposed to the ordinary infections which constitute the majority of those treated and that require concentrations approximating 0.03 units per c.c. Depot, or repository, penicillins appear to be suited to the treatment of these

latter infections[9]. These preparations offset the rapid excretion of penicillin by the kidneys, by slowing the rate of absorption from the site of their injection. Penicillin suspended in peanut oil and beeswax, was the prototype of this type of preparation, but while it was effective in prolonging penicillin concentrations, the pain and sterile abscesses accompanying its administration left much to be desired. Following the original success of the vehicle of beeswax and oil in retarding penicillin absorption, attention was turned to the salts of penicillin, relatively insoluble in water, in the hope of still further prolonging the concentrations resulting from single injection. Procaine penicillin has proved to be the most serviceable of these salts and is currently being made available in a number of vehicles, water, vegetable oil alone, and aluminum mono-stearate and peanut oil gel.

Admitting the necessity of interpreting plasma concentrations of penicillin in the light of a number of variables, the plasma concentrations following 300,000 units of the currently available penicillin preparations may be compared in terms of their ability to maintain over longer or shorter periods a concentration above 0.03 units/c.c. Crystalline penicillin in aqueous solution is rapidly absorbed from the site of the injection and likewise is rapidly excreted by the kidneys, so that penicillin can be demonstrated in the plasma for approximately 8 to 12 hours. Procaine penicillin, suspended in water or in oil, gives comparable plasma penicillin concentrations in the majority of patients for 24 to 48 hours. A possible advantage of the aqueous suspension is freedom from oil, which in some patients may give rise to allergic manifestations or local irritative phenomena. Following the administration of procaine penicillin suspended in aluminum mono-stearate and peanut oil gel, levels are sustained for approximately 96 hours. At this point, it is well to re-emphasize that the therapeutically effective dose of penicillin is largely dependent upon the sensitivity of the offending organism to the antibiotic, a fact that has been obscured by the over attention to 0.03 unit per c.c. as a therapeutically significant concentration. While preliminary studies on hospitalized patients treated with newer, long-acting penicillin dosage forms have demonstrated the adequacy of single injection treatment of bacterial pneumonias, this form of therapy is not as yet advocated for general use. Until such time when a larger series of cases has been collected, it seems advisable to recommend that injections be repeated at intervals of 24 to 48 hours. This recommendation is made primarily in the interest of patients being treated at home and are not under constant observation.

In contrast to those readily susceptible infections, requiring only small concentrations of penicillin, we have those so-called resistant types of infections which require larger amounts of the antibiotic in the tissues. The extreme rapidity with which penicillin is excreted by the renal tubules, makes difficult the maintenance of the high concentration of the antibiotic. So, it is natural that one approach to the problem has been the inhibition of the tubular excretion of penicillin. Diodrast[10] and para-aminohippurate[11], commonly employed to measure tubular excretory functions, have been found to inhibit the excretion of penicillin. More recently, caronamide[12] has been found to behave similarly and this drug has the advantage of being effective when administered orally. Caronamide by mouth, in doses of 2 to 3 gm. every 3 to 4 hours, will elevate the concentration of penicillin in the plasma from two to seven-fold[13]. Obviously, any desired concentration of penicillin can be achieved by the simple expedient of using enough penicillin to obtain it, but when the desired penicillin concentration requires more than one million units of penicillin daily, it is both reasonable and economical to employ caronamide. The incidence of toxicity of caronamide in 1913 cases has been negligible, except for nausea and vomiting, which occurs in 14 per cent of cases[14].

Chemical and therapeutic studies of sulfonamide combinations[15] have demonstrated that the total amount of sulfonamide that can be held in solution in urine is substantially increased when two or more of these substances are administered simultaneously. Thus, it is possible to lessen the hazards of urinary tract complications due to sulfonamide crystals or calculi. Alkaline adjuvants, such as sodium bicarbonate must be given in relatively large amounts in combination with a single sulfonamide in order to decrease the incidence of renal complications of this type. The same reduction in crystalluria, with hematuria and calculus formation, can be accomplished by the use of sulfonamide mixtures without the necessity of administering adjuvants.

In the past, the opinion has been prevalent, particularly among laboratory investigators, that combinations of sulfonamide mixtures offer no advantage from the purely chemotherapeutic standpoint over single compounds and some held the view that mixtures would be less effective. In a recent study, however, a combination of sulfonamides (sulfadiazine-sulfamerazine) has proven to be equal to sulfadiazine alone with respect to therapeutic results achieved and superior to sulfadiazine with regard to urinary toxicity[16].

Trials of triple sulfonamide combinations, containing sulfathiazole, sulfamethazine, or sulfapyrazine as a third component in a mixture of sulfadiazine and sulfamerazine, have indicated that the occurrence of crystalluria can be decreased to negligible proportions. The superiority of the triple combinations suggests that they may eventually replace the double combinations[17]. At this time, there seems to be a difference of opinion as to what the third sulfonamide should be in a mixture. It would appear that there is an advantage to limiting the choice to compounds of closely similar structure to minimize the potentialities of drug sensitization. The three pyrimidine derivatives, sulfadiazine, sulfamerazine, and sulfamethazine have proven to be of equal therapeutic effectiveness and to have a low incidence of toxicity. They are very similar in structure, potency, and pharmacologic properties and have been demonstrated to be safe and effective clinically. Hence, it would seem appropriate to employ sulfamethazine or sulfapyrizine as the third sulfonamide in combination with sulfadiazine and sulfamerazine, as opposed to sulfathiazole as the third component of a mixture. Sulfathiazole is excluded from consideration because of its different distribution in its body, its more rapid renal clearance, and the low solubility of its acetylated derivative. Sulfathiazole is recognized as the worst offender in the matter of renal toxicity among the sulfonamides in common use.

SUMMARY

The availability of penicillin in a variety of dosage forms and an increasing knowledge of the mode of action of the antibiotic permit greater exactness in the definition of schedules of treatment, in terms of the requirements of specific infections. Determination of the in vitro sensitivity of the invading organism constitutes an important guide to purposeful therapy. When the requirements for the control of an infection are great and whole units of penicillin per c.c. are required, caronamide, a compound capable of inhibiting the renal excretion of penicillin, is a useful adjuvant to therapy. When the requirements are in a lower range (below 1.0 units per c.c.), intervals of 8 to 12 hours between injections of crystalline penicillin in aqueous solution are permissible for the treatment of many infections. Similarly, depot penicillins offer the advantage to patient and physician of reducing the number of injections without loss of therapeutic effectiveness. Reliance on plasma concentrations following single injections of depot penicillins for periods of time ranging from 24 to 96 hours must await further evaluation.

The combined use of the antibiotics and sulfonamides offers definite possibilities for more rapid and more effective control of bacterial infections. Whether these advances are due to true synergism, or to summation of effects is not established, but it seems reasonable to anticipate that the future will see an increasing use of combinations of antibiotic and other chemotherapeutic agents.

There is no doubt that sulfonamide mixtures, dual or triple, will reduce renal complications without reducing therapeutic effectiveness. However, the question of whether multiple sulfonamides influence favorably or unfavorably systemic toxicity is as yet unsettled.

Finally, it must be stressed that the antibiotics and the sulfonamides should not be used indiscriminately or as a substitute for diagnostic acumen. If the infection warrants their use, it should be remembered that, despite their remarkable therapeutic effects, these agents should not be used to the exclusion or neglect of other established forms of therapy.

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RUEFF, JACOB (1500-1558): De conceptu et generatione hominis, et iis quae circa haec potissimum consyderantur, libri sex, congesti opera Jac. Rueff, chirurgi Tigurini. —Tiguri Christophorus Froschauer, 1554. 5 1, 105 1. with many woodcuts, villum. 21 cm.

——: De conceptu et generatione hominis . . . *Francoforti Moenus* 1580. 101 p. illus. 19 cm. (M.L.)

——: Hebammen Buch. Daraus man alle Heimligkeit dess weiblichen Geschlechts erlehrenen, welcherley gestalt der Mensch in Mutter Leib empfangen, zunimpt und geboren wirdt. Auch wie man allerley Kranckheit, die sich leichtlich mit den Kindbetterin zutragen, mit köstlicher Artzeney vorkomen und helffen könne. Alles auss eygentlicher Erfahrung dess weitberühmpten Jacob Rüffen, Stattartzes zu Zürych vor dieser zeit an Tag geben. Jetzundt aber von newen gebessert, mit schönen Figuren geziert. Sampt einem nützlichen Anhang, von Cur und Pflegung der newgebornen Kindtlein. Gestrückt zu Franckfort am Mayn im Jar 1538. 4 1., 259 (wrongly numb.249) pp. 2 leaves. Title printed in red and black. With woodcut on title and many fine woodcuts by Jost Amman in the text. 19.8 cm. 8.

——: T'Boeck van de vroetwifjs . . . *Amsterlredam,* C. *Claess* 1591. 81 p. woodcuts 18 cm. (M.L.)

——: De conceptione et generatione hominis . . . in Gynaeciorum, ed—by Israel Spach, Strassburg. 1597.

Besides the above which are in the Miller Library and in my possession, Siebold lists the following editions:

Ein schön lustig Trostbüchle von den empfengkunssen und geburten der menchen . . . Zurych 1554.

Hebammenbuch . . . Franckfort a. M. 1580. 1600.

Two Latin editions Francof. 1580, 1587 and a Dutch edition, Amsterd. 1670. The author was town physician and professor of medicine in Zurich. His is the third textbook on obstetrics. Garrison speaks of his book as a midwifery of sterling character. Many of his illustrations are found in Albertus Magnus' (or Henry of Saxony's) *De secratis mulierum* and his pictures of monsters are also to be found in Paré.

ACUTE RESPIRATORY INFECTIONS*

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An attitude of inevitability has long existed towards infection of the respiratory tract. Perhaps this is not without justification, since everyone can reasonably anticipate one or more infections with varying degrees of severity and incapacity annually. The economic loss is staggering, and the many investigations of these conditions have yielded only modest results. At this time there is still much to be desired in knowledge of, and in the prevention and treatment of, respiratory diseases. In recent years, however, acute respiratory infections have been under intensive study by many groups. The recent war occasioned an urgent need for such information and the large numbers of men in the Armed Forces afforded an unequalled opportunity for these studies. A consideration of some of these findings is undertaken at this time.

MINOR RESPIRATORY INFECTIONS

This group represents the commonest and by far the largest number of respiratory infections. Their incidence is distinctly greater during the colder months of the year. They are numerous in late September or October, mid-winter, January, and February and often in the spring. It is suggested that other factors than the weather are responsible for this periodicity which has been found similar in regions of great climatic difference. In the fall there is frequently a predominance of coryzal infections or common colds, while in the winter months "grippal" infections are commonly observed.

It has recently been observed that nasopharyngeal cultures from individuals so infected reveal chiefly the common inhabitants of the nasopharynx and are indistinguishable from cultures obtained from healthy individuals. That there is an infectious agent responsible is generally accepted. The presence of an ultra microscopic or filtrable agent in nasal secretions has been suggested by many. Dochez and his co-workers in 1931 reported cultivation of an agent on embryonic tissues which they thought should be classified as a filtrable virus.

In a recent study of this group of infections by The Commission on Acute Respiratory Diseases[1] filtered washings from the throats of individuals believed to be suffering from different types of minor respiratory infections were obtained. Briefly, the types were (1) A severe febrile illness with sore throat, hoarseness and cough—designated acute respiratory disease. (2) A coryzal illness with fever and constitutional symptoms. (3) Coryza without fever and (4) A severe febrile illness, with constitutional symptoms, rales in the lung, but negative x-ray, simulating "bronchitis resembling atypical pneumonia". Under carefully controlled conditions, the filtered washings of these four groups of cases were administered to four groups of volunteers, each group receiving one of the four types of inoculum. A surprisingly high percentage of infections resulted in each of the groups, with the exception of the group receiving the inoculum from the "bronchitis resembling atypical pneumonia group" and these results were inconclusive.

Two distinct types of infection resulted from the inoculation of the other three groups. Individuals receiving inoculum from the case of acute respiratory disease predominantly developed symptoms on the fifth or sixth day. They revealed an onset with dry or sore throat for a period of 24 to 48 hours with mild inflammation of the palate or pharynx. Nasal obstruction and sneezing were present but minimal. There was a febrile response and hoarseness and cough were observed. In the majority of cases the illness lasted only four days, though there were instances of six and twelve days.

Volunteer groups receiving inoculum from the coryza with febrile reaction and coryza without fever revealed another type of illness. The onset was abrupt, usually within 24 to 48 hours, with sneezing, nasal obstruction, coryza and mild constitutional symptoms. The duration of this infection was somewhat longer. Thus, two clearly differentiated illnesses, one with an incubation period of 5 or 6 days with sore throat, hoarseness, cough and constitutional symptoms, or acute respiratory disease, and another with an incubation period of 24 to 48 hours with abrupt onset, nasal

*Read before The South Piedmont Medical Society, November 12, 1947.

obstruction, and coryza of "common cold" like symptoms occurred. This suggests that two filtrable agents, presumably viruses, may induce minor respiratory illness.

Further observations[2] three weeks later consisted of re-inoculation of these groups with the same inoculum. It is noteworthy that those individuals receiving the inoculum of acute respiratory disease at this time did not again develop the illness. On the other hand, those previously infected with the inoculum of coryzal like illness, again at this time developed an illness in one or two days with coryzal symptoms.

Again 25 days later those originally receiving inoculum of acute respiratory disease were given inoculum of coryzal infection and developed the coryzal illness. Likewise, those having previously received inoculum of coryzal infection were given the inoculum of acute respiratory disease and developed this disease, thereby indicating a lack of cross immunity between the two illnesses. Finally, these individuals who had suffered both types of infection were inoculated with the filtered washings from a case of atypical pneumonia. Two individuals who had previously had both minor respiratory illnesses developed atypical pneumonia. From this it is seen that minor respiratory infection does not produce immunity to primary atypical pneumonia.

Therefore, two types of minor respiratory infection, one with an incubation period of 5 or 6 days with fever, sore throat, cough and hoarseness apparently affording some protection against reinfection; another characterized by a 24 to 48 hour incubation period with an abrupt onset of a coryzal illness, without apparent immunity to reinfection, are disclosed. They appear to be two distinct infections lacking in immunity against each other. Neither infection renders an immunity to primary atypical pneumonia.

TONSILLITIS AND PHARYNGITIS

It has long been a clinical impression that instances of exudative tonsillitis or pharyngitis were most likely due to infection by the beta hemolytic streptococcus. Cases of exudative tonsillitis and pharyngitis occurring at Fort Bragg were also studied by The Commission on Acute Respiratory Diseases. That there are fairly marked differences in the geographic distribution of the beta hemolytic streptococcus has been adequately demonstrated by Van Ravenswaay.[3] Therefore, observations made in an area of such close proximity and similarity of climate to our own should be helpful.

This group studied 3026 patients hospitalized with respiratory infections of which 465, or a total of six per cent, were cases of proven beta hemolytic streptococcal infection.[4] The bacteriological procedures employed consisted of cultures obtained from the tonsillar or pharyngeal exudate. Colonies on agar plate revealing beta hemolysis were grouped and typed according to the method of Lancefield. Serological proof of the infection was demonstrated by a rise in antistreptolysin and antifibrinolysin titres of serum obtained during the third and eighth week of convalescence. The presence of a positive culture of beta hemolytic streptococcus from the throat unaccompanied by a rise in antibody titre was interpreted as representing a carrier state, but not infection by this organism. Thus, serological evidence of infection was a requisite for establishing the diagnosis. Lancefield group A beta hemolytic streptococcus organisms as a group are chiefly responsible for infections in man and were isolated alone or in combination in 90 per cent of the streptococcal infections, while other groups, chiefly groups C and G, comprised the remaining ten per cent of infections. It is also of interest that healthy carrier rates for all groups of beta hemolytic streptococci varied between 8.0 and 9.7 per cent, while in patients hospitalized with respiratory disease the rate was 13.9 per cent.

Approximately ten percent of all hospitalized cases of respiratory infection were found to suffer from exudative tonsillitis and pharyngitis. One hundred and sixteen such cases were studied.[5] In 25 per cent of these cases cultures yielded beta hemolytic streptococci and there was an accompanying rise in streptococcus antibodies in convalescent serum, compatible with beta hemolytic streptococcal infection of the throat. Another 25 per cent yielded beta hemolytic streptococci on culture, but there was no antibody response in the convalescent serum, suggesting a carrier state only. In 50 per cent of cases streptococci were not found on culture. Thus, only one-fourth of the series were serologically proven cases of streptococcal infection. In the remaining one-half of cases there was little evidence that bacteria were responsible for the in-

fection. The etiology of non-streptococcal exudative tonsillitis and pharyngitis is not understood.[6] Cultures revealed the common organisms as pneumococci, staphylococci, hemophilus influenza and hemophilus hemolyticus. The frequency of these organisms was the same in this group as in well soldiers and those suffering undifferentiated respiratory disease. This type of sore throat has occurred frequently in the course of epidemic undifferentiated acute respiratory disease, and may well be a variant of this condition. It has been reported in association with primary atypical pneumonia.[7]

The clinical features of the two groups are instructive. The onset in the streptococcal group is more sudden, usually within a period of 24 hours. Constitutional symptoms of chilliness, headache, malaise, and feverishness are common to both groups, though slightly more marked in the streptococcal than in the non-streptococcal infections. Sore throat was of equal frequency in both groups, though occurring earlier in cases of streptococcal infection. In the non-streptococcal cases the tendency to involve the lower respiratory tract was distinctly greater, and cough, hoarseness, sputum, and chest pain were much more common than in the streptococcal infections.

Physical findings reveal even more striking differences. Patients suffering with streptococcal infection appear more severely ill. In this group the average temperature is 102.5 degrees F., while in the non-streptococcal group it averages 101.7 degrees F. The throat in streptococcal infection is diffusely red with involvement of the tonsils, palate, pharynx, and in most instances there is also edema of these tissues. The exudate due to streptococci is usually yellow, large in extent and confluent. There are associated enlarged tender lymph glands. Non-streptococcic exudate on the contrary is usually gray or white in color, pin-head size, and often over enlarged follicles of lymphoid tissue on the post pharynx. In the presence of tonsils both types of exudate occur, whereas, in cases having had tonsillectomy the pin-head size is more common. In streptococcal infection the white blood count averages 13,427 with 79 per cent polymorphonuclear cells, while in the non-streptococcal group the average count was 9,024 with 67 per cent polymorphonuclear cells. Usually in both instances the illnesses are of short duration, the temperature returning to normal within four days.

The value of penicillin and the sulfonamides in beta hemolytic streptococcal infections merits further study. Finland[8] and co-workers demonstrated that in scarlet fever intramuscular penicillin for seven days was required to permanently clear the throat of streptococci. Septic complications were controlled, while the toxic and eruptive phase were uninfluenced. Sulfonamides suppressed but did not eradicate streptococci from the throat. Spink[9] and his co-workers were not favorably impressed with the effectiveness of sulfadiazine in altering the course, except in very ill cases, or eradicating beta hemolytic streptococci from the throat in streptococcal tonsillitis. Total doses of 200,000 units of pencillin administered intramuscularly in cases of severe streptococcal tonsillitis reduced the severity and in instances appeared to shorten the course. However, they observed that in order to eliminate beta hemolytic streptococci from the throat for more than a temporary period the dosage of penicillin required was from 500,000 to 1,000,000 units. Subsequent development of rheumatic fever in patients with group A beta hemolytic tonsillitis or scarlet fever was not prevented by penicillin. Rantz[10] and co-workers stress the seriousness of streptococcic sore throat in young adults in which arthritis, fever and carditis, which may ultimately be followed by chronic valvular disease, are the most common sequellae. At this time, treatment of the non-streptococcic tonsillitis and pharyngitis would appear to be symptomatic.

PNEUMONIA

In recent years there has appeared among the respiratory diseases, both in civilian and in military practices, what has been described as "one of the most peculiar of the infectious diseases of man."[11] Many names have been applied to this condition but perhaps it is best known as virus pneumonia and atypical pneumonia.

That this clinical picture may be produced by a variety of agents including bacteria, fungi, rickettsia and viruses is well established.[12,13,14] This would seem to invalidate the broad use of the term virus pneumonia. When positive results are obtained by the use of intradermal tests, isolation of the agent and serological or immunological tests, the pneumonia should be considered as of a specific etiological type. Those instances of undetermined etiology are better designated primary atypical pneumonia. Certain infections which may

closely simulate atypical pneumonia are worthy of mention. Both virus A and virus B of influenza may produce pulmonary lesions which are clinically similar. The virus of the psittacosis-ornithosis group while producing indistinguishable pulmonary lesions are usually more severe. Finally, pulmonary infiltrations may accompany infection with the virus of lymphocytic choriomeningitis. Pneumonia resulting from Q fever due to Rickettsia burneti was common in the Mediterranean and in troops returning to this country during the war. Outbreaks in laboratory workers have been reported in this country.[15] There are probably unrecognized cases also. This infection strongly resembles atypical pneumonia. Of the fungous infections coccidioidomycosis may closely resemble atypical pneumonia.[12] In a small percentage of cases primary atypical pneumonia may be extremely difficult to distinguish from bacterial pneumonias due to the pneumococcus, tubercle bacillus, Brucella abortus and Pasteurella tularensis.

Primary atypical pneumonia is of apparently wide spread distribution. Susceptibility seems to be uninfluenced by race, sex or color. The infection is most likely spread by contact with oral and nasal discharge from unrecognized or recognized infections. Attempts to produce the disease in animals have been difficult of interpretation and lack confirmation by different workers. The condition has been induced in human volunteers by the administration of sputa and throat washings, both untreated and filtered from known cases. This study concludes that atypical pneumonia is at least initiated, if not caused by a filter passing agent, presumably a virus.[14] It is likely that the incubation period may be as long as two or three weeks.

The onset is gradual with predominant constitutional rather than respiratory symptoms. These consist of malaise, fever, headache, and chilliness. Later a dry cough accompanied by substernal discomfort, gradually becoming productive of mucus, then purulent or occasionally blood streaked sputum develops. Coryza and sore throat may be observed, also gastrointestinal symptoms may be present. The temperature varies between 99 degrees and 104 degrees F., may persist from three to eight days or longer, terminating by lysis. There are instances of prostration, cyanosis, dyspnea, and even collapse. Ordinarily the illness is mild or moderate and the patient does not appear too ill.

The physical examination is characterized by a paucity of physical findings. The pulse and respirations are essentially normal. There is evidence of inflammatory reaction in the respiratory tract. Rather late in the course subcrepitant rales may be heard over the involved lung, and may persist for days or weeks. Ordinarily consolidation is not present. The leukocyte count is usually normal. X-ray evidence of the infiltration usually precedes physical signs of pulmonary involvement. Radiographically the lesion begins in the peri-hilar region and spreads out either in wedge or fan shaped fashion to the periphery. The shadow may be soft, patchy, or homogeneous in appearance.

There are certain cases which are identical to the foregoing symptomatically and on examination reveal characteristic subcrepitant rales, chiefly unilaterally, yet which fail to reveal evidence of pulmonary infiltration on x-ray. Such cases are designated "bronchitis resembling atypical pneumonia".

Pathological changes are described as consisting of an interstitial broncho-pneumonia, which may be hemorrhagic, acute bronchitis, and necrotizing bronchiolitis. In the parenchyma the mononuclear cell predominates, whereas in the bronchi polymorphonuclear leukocytes are chiefly found.

Therapy is supportive. Rest, fluids, and opiates to relieve cough and malaise are indicated. When cyanosis or anoxemia is present oxygen therapy is indicated. It is unlikely that in uncomplicated cases chemotherapy or anti-biotics are of value.

The bacterial pneumonias with sudden onset, chills, pleural pain, bloody sputum and leukocytosis in the majority of instances are readily differentiated. Viral, Rickettsial, and pneumonias due to fungi, as mentioned previously, may be differentiated by means of skin tests, bacteriological, and serological studies.

Studies on the serum of cases of primary atypical pneumonia have revealed interesting reactions. Of these, the capacity of such serum to produce agglutination of group O human erythrocytes at ice-box temperature, but not at incubator temperature, or the occurrence of so-called cold hemagglutination is significant.[11,12,16] This occurs in approximately half of the cases and appears to be related to the severity of the infection. While this phenomenon may be produced by the sera from other infections, the incidence is very much lower. Also the isola-

tion of an indifferent streptococcus, related to streptococcus salivarius type I, from the lungs and sputa of cases of atypical pneumonia, which is agglutinated by the convalescent phase serum from cases of atypical pneumonia, is of interest. These agglutinins are different from the cold agglutinins.[14] This organism is now identified as streptococcus MG, and the agglutinins occur in about 44 per cent of atypical pneumonia cases. If the convalescent serum reveals a rising titre for both of these tests, the probability is high that the condition is primary atypical pneumonia. Thus positive serological confirmation of the diagnosis of primary atypical pneumonia may now be had. However, if the tests are negative the infection may still be primary atypical pneumonia.[11]

Therapy of the pneumococcal pneumonias with antipneumococcic sera, chemotherapy and penicillin is firmly established and need only be mentioned in passing. It is worthy of note that Francis and Tillet showed that doses as small as 0.01 milligram of purified pneumococcus capsular polysaccharide injected intracutaneously were antigenic for man. MacLeod, Hodges, Heidelberger and Bernhard produced conclusive evidence of immunization by these polysaccharides against infection with the corresponding types of pneumocci. The immunity is believed to be of at least six months duration.[17] These studies appear to have laid the ground work for the employment of active immunization against pneumococcal pneumonia.

INFLUENZA

For the average individual the term influenza is synonymous with the pandemic of 1918 with its toll of twenty million deaths of which 548,000 were in this country, with an attack rate of fifty times this number.[18] This represents the most severe phase of the infection and is by no means characteristic of its usual occurrence. Three main forms of influenza have been described, namely: the pandemic which is world wide in its sweep, the epidemic which may involve large portions of a country or entire countries, and the endemic or localized sporadic out-croppings of this condition which are constantly present. The discovery in 1933 of influenza virus A by Smith, Andrews, and Laidlaw, and in 1940 of influenza virus B by Francis and Magill, working independently, has contributed much to studies of this infection. These organisms are found in the nasopharynx of victims during the first week and reveal an affinity for the mucosa of the respiratory passages.[19] The patient reacts to the infection with antibodies in the serum which reach a maximum titre in two weeks. That they are different infections is evidenced by their failure to reveal cross immunity. Their constant association with outbreaks of influenza would indicate the probability of their presence in future outbreaks. The occurrence of hypothetical influenza types "Y" and "C" as the etiological agents in wide spread outbreaks is unsubstantiated.[20] Comparing the 1918 pandemic with later epidemics, Francis[18] states, "The differences ennumerated appear to be those of degree—quantitative differences of broad epidemiologic rather than specific clinical or etiologic nature."

Knowledge as to the occurrence of epidemics of influenza would be invaluable. Many such studies have been undertaken. Since the discovery of the viruses, it has been observed that influenza A has occurred in epidemics every two or three years, while epidemics of influenza virus B occurs every four to six years. The periodicity of influenza is comparable to that of other diseases which occur in cycles, such as measles, which may occur annually in some areas, biannually in others, and in smaller populations the occurrence of epidemics is irregular. Many factors, such as the size of the epidemiological unit, intermixing of population groups, and climate appear to influence the frequency of epidemics.

There are wide variations in the clinical picture.[21] Residual immunity from previous exposure modifies the picture in the adult, while children present a more nearly typical picture. Characteristically, the picture is that of an abrupt onset with fever, generalized aching, respiratory tract inflammation and absence of other gross lesions. All cases do not present this symptom complex. A number of such cases simulate the ordinary upper respiratory infection. By clinical means alone differentiation between infections produced by the two viruses is not possible. Confirmation of the diagnosis is dependent upon the demonstration of a rise in antibody titre.

The discovery that antibodies could be produced artificially by the injection of active or inactivated virus without production of the disease, initiated

studies for the production of a vaccine to immunize against influenza. Spurred on by the war The Commission on Influenza of the Army Epidemiological Board devised a practical means to attain this purpose. A vaccine containing strains of both types A and B is available. Serologic results reveal that at the end of twelve months the antibody titre is well above the pre-vaccination level. There is also indisputable evidence that man's resistance to infection with influenza virus A and B can be enhanced.

SUMMARY

The study of the common respiratory diseases is a most complex one. The many investigations of this problem, spurred on by the necessities of the recent war, have contributed to the general knowledge of the subject. Some of these have been reviewed. This information supplemented by thoughtful observation on the part of the clinician, it is believed will be conducive to a better understanding of this problem.

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THE DIAGNOSIS AND TREATMENT OF PARESES OF THE OBLIQUES*

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Until the early part of the present century the dictum of not touching the obliques advanced by von Graefe held full sway. The first of these muscles to fall under the surgeons hands was the inferior oblique, when tenotomy of this muscle began to be practiced for paralysis of the contra-lateral superior rectus with over-action of the inferior oblique. This procedure was succeeded by myectomy and then by recession of the muscle for the same condition. The late John M. Wheeler[1] was the first to operate directly upon the superior oblique for paresis of that muscle. In the same article in which he discussed the operation upon the superior oblique he described his procedure for the surgical correction of paresis of the inferior oblique. Hughes and Bogart[2] advocated recession of the trochlea in over-action of the superior oblique, while more recently Berke[3] has described his procedure of partial tenotomy of the superior oblique for the same condition.

In the writer's experience paralysis of the inferior oblique is none too common and when encountered has generally been the result of trauma to the lower orbital margin in the region of the origin of the muscle. The main action of the inferior oblique is extorsion of the globe, while the secondary actions are elevation and abduction. Abduction has been generally accepted as a secondary function of the muscle, but the work of Krewson[4] refutes this and holds that the secondary function of the muscle is adduction, since he finds that the insertion of the muscle is anterior and not posterior to the equator of the globe. However, in a personal communication Fink[13] states that in the dissection and preparation of over one hundred globes he found the insertion of the inferior oblique to be posterior to the equator in all but three or four cases when it was at the equator.

The symptoms of diplopia in paresis of the inferior oblique are not as marked as in paresis of the superior oblique because the field of action of this muscle is up and in and the most constant use of the eyes is in the lower fields. However, the loss of the extorsion effect causes confusion and practically all of these patients will have a head tilt to the opposite side. If, for instance, we are dealing with a paresis of the left inferior oblique, in the primary position there will be some loss of extorsion power with a resultant tendency of the globe to intort. The patient then involuntarily tilts his head to the right shoulder as this will cause a compensatory extorsion of the right eye due to the action of the right inferior oblique which is brought into action by this head tilt. The tilting of the head in paresis of the inferior oblique is by no means as marked as the tilt observed in paresis of the superior oblique, nor is it usually as great as the tilt occurring in paralysis of the superior rectus, which itself is less than that occurring in superior oblique palsy. In addition to the sideward tilt in paralysis of the inferior oblique these patients characteristically carry their heads tilted backward in order to keep the eyes out of the field of action of the inferior oblique. The principal objective sign of paresis of the inferior oblique is a hypertropia of the opposite eye which increases as the eyes are carried into the field of action of the paretic inferior oblique. When adducted, the affected eye cannot be raised above the horizontal plane.

White[5] has advocated a tucking of the muscle near the insertion into the globe for paresis of the inferior oblique while Wheeler[1] described his procedure for advancement of the muscle from the origin over the orbital rim to the periosteum on the facial surface of the superior maxilla. I cannot speak with any authority on the method of tucking because I have never used it, however, tucking of any extraocular muscle seems to be a poor substitute for adequate operative procedures. The Wheeler advancement has been used with good results but a clean dissection of the muscle near its origin is time consuming because of the large amount of orbital fascia which one encounters in this location. In an effort to obviate the difficulty of dissection and still obtain an adequate result the

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writer has recently been resecting the inferior oblique near the insertion in cases of paresis of the muscle. The conjunctiva and Tenon's capsule are incised in the lower temporal quadrant of the globe and a muscle hook passed backward to engage the inferior oblique. The muscle is freed of its subconjunctival attachments and grasped with a small muscle forceps at a predetermined distance from its insertion. The muscle is then cut just distal to the forceps and the excess muscle remaining attached to the insertion is cut away. One double armed plain catgut suture is passed through the belly of the muscle proximal to the forceps and then passed through the original insertion of the muscle and tied. There is no definite amount of muscle to be resected in this procedure but it has been my practice to remove as much as possible in an attempt at immediate over-correction. Five cases have been operated upon in this manner with very satisfactory results and permanent over-correction has not resulted in any case.

It is well recognized that paresis of the superior oblique is, with the exception of paralysis of the external rectus, the most common weakness of any individual ocular muscle. In the past three quarters of a century cases of under-action of this muscle have been reported with increasing frequency, but until 1934 when Wheeler[1] reported upon his procedure for the advancement of the tendon, the surgical relief of paresis of the superior oblique was confined to procedures upon its yoke or direct antagonist muscles, with occasionally a recession of the superior rectus, or a resection of the inferior rectus of the same eye. Even since Wheeler's report the vast majority of attempts at correction of the condition have dealt with the yoke or direct antagonist muscles, and only in rare instances has the tendon of the superior oblique been operated upon.

DIAGNOSIS

In the past there has been a good deal of discrepancy among various authors as to the relative frequency of paralysis of the superior oblique and the superior rectus. Davis[6] found the superior oblique at fault in 54.5% of vertical anomalies and the superior rectus in 45.5%. White and Brown[7] reported that only four per cent of vertical anomalies were due to paresis of the superior oblique and that ninety-six per cent were due to paresis of the superior rectus. This discrepancy can probably be explained by the fact that Davis was referring to the isolated primary vertical motor pareses, while White and Brown based their opinion on the statistics of secondary vertical motor pareses such as cases of convergent squint associated with a noncomitant vertical deviation.

In order to diagnose any extraocular muscle paresis it is of course necessary to understand the functions of the paretic muscle. The superior oblique has three actions: (1) Depression of the globe; (2) Abduction; and (3) Intorsion. The depressor action of the muscle increases when the eye is turned inward and becomes practically nil when the eye is abducted. Thus, it is seen that when the globe is turned medially by the internal rectus and then depression is desired, the superior oblique exerts the strongest force upon the eye that is possible When the eyeball is turned outward the tendon of the superior oblique is situated so that it is almost at right angles to the anterior posterior axis of the globe and consequently its main action, that of depression of the globe, is reduced to zero. At the same time, however, the secondary actions of the muscles increase when the globe is turned outward, because the tendon of the muscle lies in such a position that its effect upon intorsion and abduction is greatest. Conversely, when the globe is adducted the effect of the superior oblique on abduction and intorsion is markedly decreased.

The most characteristic sign of paresis of the superior oblique is a head tilt to the opposite side. This is accompanied by a hypertropia of the affected eye which increases when the eye is carried into the field of action of the superior oblique, that is, down and in. The hypertropia is accompanied by a corresponding diplopia.

The differential diagnostic signs between the paresis of the superior oblique and paresis of the superior rectus have recently been summarized by Adler.[8] These are as follows:

(1) Head tilt. While this is present in paresis of the superior rectus it is much more marked in paresis of the superior oblique due to the fact that contraction of the superior oblique in the primary position results in 56% of the movement being intorsion, while contraction of the superior rectus in the primary position results in only 25% of its pull as intorsion.

(2) The head is always toward the side opposite

the paretic eye. This is much more marked in pareses of the superior oblique, while in those cases of superior rectus it is relatively little.

(3) If the head is tilted by the examiner toward the shoulder of the same side as the paretic eye, this eye will make an upward movement if the superior oblique is at fault. If the superior rectus is involved the eye will either not move at all or will move slightly downward.

Another factor which may confuse the picture in primary or secondary paresis of a vertically acting muscle is inhibitional palsy of the contra-lateral antagonist. When this occurs, primary paresis of the superior oblique may be easily mistaken for paresis of the superior rectus. Adler's explanation for this is interesting. If the patient habitually fixes with the sound eye there will be no inhibitional palsy. However, if he fixes with the paretic eye then the sound eye will show a limitation of movement when looking up and to the sound side. If there is a paresis of the superior oblique in the right eye and the patient habitually fixes with this eye, then on looking up and to the left the left eye will not move up as far as it normally should. This will simulate a paresis of the left superior rectus. Alder states, "the patient is fixing with his paralysed right eye. The right inferior oblique is not opposed by a normal tone from the paretic right superior oblique muscle. Therefore, less nervous impulse is needed to elevate the eye in levo-version than normally is needed. The yoke muscle of the right inferior oblique, the left superior rectus, gets less than the required amount of stimulation, which therefore prevents the left eye from moving up as far as the right eye."

SURGERY

The direct attack upon the superior oblique muscle, either in paresis or over-action, has been, for the great majority of ophthalmologists, something to be avoided at all costs. The principal objection seems to have been that the tendon of the muscle is too difficult of access. As a consequence of this belief, until the more recent past, attempts at surgical correction of paresis of the superior oblique have utilized one or more or a combination of the following procedures, with the preference being approximately in the order in which they are listed: (1) Recession of the inferior rectus of the opposite eye; (2) Tenotomy of the inferior oblique of the same eye; (3) Recession of the superior rectus of the same eye; (4) Resection of the inferior rectus of the same eye.

The writer's interest in the surgical correction of the superior oblique was stimulated by the report of Wheeler[1] on his advancement procedure for under-action of the muscle. The method now in use by the writer[9] is essentially a modification of Wheeler's procedure and was devised simply because it seemed to offer a little surer method of achieving the desired result. In the twenty cases of paresis of the superior oblique upon which I have operated Wheeler's method of advancement of the tendon was followed in the first three cases. The results in the first two cases were gratifying but in the third case, two weeks after operation there was no appreciable improvement in the paresis. It was believed that the suture through the superficial layers of the sclera in the region of the macula had pulled out. Consequently, five weeks after the first operation a second operation was performed on this patient. The tendon of the superior oblique was found to be in the same position that it had been before any operative procedure had been done. A resection of the tendon of the superior oblique was then done and has been performed in all subsequent cases.

The advantages of this modification of Wheeler's procedure are two. In the first place, in the original procedure described by Wheeler the tendon of the superior oblique is tucked without providing for the apposition of raw surfaces and, after one failure with this method in which the adhesions failed to form at all, the writer came to the conclusion that if two raw surfaces were brought in apposition the chances of a firm union would be much better. In the second place, the works of Fortin[10,11], Genet[12] and Fink[13] have shown that the two oblique muscles of the eye have their insertions in the sclera close to, or in, the macular region. In view of this, it would seem that the insertion of sutures through the sclera in this region would definitely tend to produce more trauma to the macular region than the introduction of sutures merely through the stump of the original insertion into the sclera.

An estimate of the amount of tendon to be resected can be obtained by having the globe turned strongly down and in by means of the traction su-

ture, and with the eye in this position, grasping the tendon with a forceps at various distances from the insertion and then doubling the tendon over upon itself by carrying the forceps toward the insertion. When the forceps is placed upon the tendon in such a position that when it is moved over to the insertion the tendon is fairly tight, the ideal amount of tendon to be resected will have been determined. The suture should then be placed in the tendon at the point where the forceps was located and the distal portion of the tendon resected.

A word should be interjected at this point as to the relative ease or difficulty in operating upon the tendon of the superior oblique. The principal objection to surgery upon the tendon itself has been voiced by von Graefe[14] and Jackson[15] both of whom stated, in effect, that the tendon was too difficult of access to permit surgery upon it. Wheeler[1] himself, in describing his operation, states, "It cannot be said that the operation is convenient or easy, but technically it is entirely possible and reasonable."

With the above premises the writer must disagree. The approach to the tendon of the superior oblique is certainly not too difficult for any competent ophthalmic surgeon and, once the tendon is exposed, the remainder of the procedure is neither complicated nor technically difficult.

During the past half century the oblique muscles of the eye have been treated surgically with increasing frequency. Before this time the obliques were thought to be too difficult of access to operate upon them with ease, but the great strides in the surgery of retinal detachment with consequent exposure of the obliques have served to focus the attention of ophthalmologists on the true ease of exposure of these muscles. In operations upon the inferior oblique a cleaner dissection of the muscle can be made near the insertion rather than at the origin, and it is felt that operations on this muscle near the insertion produce just as good, if not better, results than operations upon the muscle near the origin.

COMMENT

Prior to 1934, when Wheeler[1] described his operation for advancement of the tendon of the superior oblique, paresis of this muscle had been treated surgically by one of four methods or a combination of these. None of these methods directly attacked the main problem. Complete paralysis of the superior oblique is rare and what the ophthalmologist is confronted with in the vast majority of cases of disturbance of motility of this muscle is an under-action, or paresis, of the muscle. Granted that such is the case, the most logical primary procedure in relieving the distressing symptoms of this condition is upon the paretic muscle itself. If such a procedure does not result in relief of the condition, other methods may be put into use. However, it is believed that with resection of the tendon of the superior oblique as the primary step in cases of paresis of this muscle, secondary procedures will seldom be necessary and the patient will be saved the inconvenience, not to mention the expense, of several operations, the result of which cannot even be estimated in advance.

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THE MEDICAL ASPECTS OF THE ATOMIC BOMB*

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It has been estimated that energy equivalent to twenty thousand tons of T.N.T. was released by the explosion of the first atomic bomb.[1] The Smyth report stated that the critical mass of the first bombs was between 4.4 and 220 pounds. If we assume they weigh 110 pounds and 2.2 pounds underwent fission, radio activity equivalent to one hundred million tons of radium would be produced.[2] The bomb dropped on Hiroshima instantly and completely devastated an area of four square miles. Sixty-six thousand people were dead or missing, and sixty-nine thousand were injured.[3] Two hundred and sixty of the three hundred doctors in the city were unable to assist in treating the wounded.[4] Out of a total of one thousand seven hundred and eighty nurses about one hundred were available for duty and only a few of the fifty hospitals were in usable condition.[5] It is theoretically possible to produce bombs a thousand times more powerful than the ones first used. It takes little imagination to visualize the tremendous magnitude of the medical problem in a similar situation.

The immediate effects of an atomic explosion are caused by the shock wave, the thermal flash and various types of radiations. The shock wave is produced by the sudden heating of air to extremely high temperatures. It is like a sudden, violent gust of air. This explains why little direct pressure damage was found in the lungs of Japanese casualties and in the Bikini animals. When an atomic bomb explodes, a temperature approaching that of the sun is produced; and light is emitted covering all ranges of the spectrum. Within a radius of two miles radiations, which are probably in the ultra-violet range, produce "flash burns" severe enough to require treatment.

There is a tremendous amount of ionizing radiation liberated at the time of the explosion. Neutrons and gamma rays are the principal source of this irradiation. It is like suddenly releasing a massive amount of x-ray irradiation which would cause death to almost all people within a radius of 0.5 miles.

The delayed effects of the bomb are due to the radiations produced from unfissioned uranium 235 or plutonium, the radioactive fission products and the artificially induced material from the explosion. This delayed effect necessitates decontamination and removal of personnel from contaminated areas.

If an atomic bomb were detonated in the air over a city the size of Washington, D.C., it is estimated that fifty-seven thousand people would be killed or missing and fifty-nine thousand four hundred injured. The types of casualties would be: wounds 70%, burns 65%, radiations 35% plus.

The types of wounds from one group of Japanese patients at a military hospital were: fractures 11.5%, contusions 53.8%, and lacerations 34.7%. Most all of the burns encountered were "flash burns". Flame burns were rare because most all of these patients burned to death. Burns represented a large percentage of the casualties because the effective range was two miles, while casualties from wounds and ionizing radiation were within the one mile radius.

Virtually all ionizing radiation has a destructive effect on tissue. The reversibility of any specific effect is dependent upon the regenerative properties of the tissue. Cells become more resistant to ionizing radiation in the following order: lymphocytes, germ cells, granulocytes, epithelium, endothelium, muscle, connective tissue, bone and nerve cells. The cells may show chromosome breaks, increased granularity, cytolysis, changes in viscosity of protoplasm, permeability of the cell membrane, etc. Intercellular changes vary from slight alteration to necrosis. The skin shows various inflammatory and degenerative changes. Epilation occurs in the third week.[7]

The epithelium of the gastro-intestinal tract first shows edema, hyperemia, and increased secretion. The reaction usually occurs after about four days, reaching a peak with ulceration in one to two months.

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Hemorrhagic changes further aggravate this condition. In the third and fourth months a hemorrhagic ulcerative enteritis develops similar to that of bacillary dysentery. It seems that much of the process is not only change resulting from the irradiation of sensitive intestine, but also a change due to its lowered ability to cope with intestinal microorganisms and to the lowered defense capabilities of the blood.[8]

There is almost a total disappearance of blood forming elements during the first week after the explosion. By the end of the week the reticulum begins to proliferate and differentiate into lymphocytes and plasma cells. Myeloid differentiation is seen about the fourth week. According to the Japanese, the lymphocyte count dropped immediately and reached its lowest point in about five days. A few days later the granulocyte count began to drop and the lymphocyte count to increase. About the same time the erythrocyte count began to fall so that by the end of the third week, in many cases, there was a recovery of the lymphocytes with a marked decrease in the granulocytes and an associated anemia.[9]

The hemorrhagic lesions began to appear about the end of the first month. However, studies upon a few animals suggest increased capillary fragility from the beginning. If the platelet count dropped there was a typical thrombocytopenic purpura. As previously mentioned, this condition aggravates the ulcerative lesions of the pharynx and gastro-intestinal tract. Later the clotting time began to increase, and terminally the blood may be incoagulable. This is probably due to the release of heparin or a "heparin like" substance from the mast cells surrounding the blood vessels.[10]

Most of the patients within one mile of the explosion had sperm counts under 40,000 cubic millimeters (lower limits of normal). Several patients had loss of libido or loss of potency. Less striking changes were found in the ovary. In Japan in 1944 amenorrhea was present in 12% of the population. Thirty-six per cent of the women in Hiroshima within three miles of the bomb experienced menstrual disorders. Most had one normal period followed by cessation of menses for a period of from three to four months.[11] In a recent follow up of the children born to the Japanese exposed to the radiation, no increase in abnormalties was noted.

The term "total body radiation" implies that the entire body has been exposed to the radiating source. Any part of the body shielded will alter the train of events. It is not known whether this is due to preservation of a part of the body's enzyme system, whether it is merely a quantitative factor, or unknown qualitative factors.[12]

Very little is understood about the mechanism by which radiations produce biological effects. Some believe the effect is due to a change in the nuclear protein of the cell, that is, some chemical change which prevents normal interchange between nucleus and the rest of the cell. Others believe toxic products are produced which cause cell death. Another group believes there is an interference with permeability of the cell membrane, thus interfering with normal exchange of fluids.[13]

The syndrome of acute total body radiation is initiated by ionization of the tissue by the various types of radiation. The following course is a function of the extent to which normal processes are disturbed: continued death of more and more cells is probably due to initial nuclear injury, absorption of a toxic agent produced, disturbance of the hormonal and enzyme systems and secondary bacterial invasion.

All patients within a radius of less than six-tenths of a mile, from the explosion died from the initial effects in one to two weeks. Nausea, vomiting and malaise were the presenting symptoms, then diarrhea began and continued. The stools looked like those of cholera and reached a frequency of 15 to 20 a day. The white blood count was below 1000. Usually between the fifth and seventh days there was a steplike rise in temperature which continued to rise until death. There were anorexia and abdominal pain. Acidosis and dehydration developed. The patients became weaker and weaker and seemed to die a biochemical death.

Patients from .6 to 1 mile from the explosion lived long enough for the functional changes to occur. After the initial episode of malaise, nausea, and vomiting, there was an asymptomatic period varying from one to four weeks, depending upon the amount of irradiation. Epilation was the most frequent symptom terminating the latent period. A few days later malaise and a fever, step-like in character, occurred. Diarrhea was the most prominent symptom. Inflammatory lesions of the mouth, nose, throat and gastro-intestinal tract also began about this time. Ulceration and sloughing occurred

about the time of the most severe leukopenia. Hemorrhagic tendencies usually developed about the third or fourth week. These hemorrhagic and necrotizing lesions are similar to those seen in aplastic anemia and agranulocytosis.

If death does not occur in this phase an anemia similar to that caused by benzol poisoning develops. There is usually a general debilitated condition for a long period. They may recover or die of extreme emaciation after a chronic illness. Failure of the bone marrow to recover is a prominent feature in these cases.

The treatment of acute radiation sickness at the present time consists of scrupulous sterile technique, careful nursing, care of skin, teeth, mouth, and excretory organs, maintenance of fluid and electrolytic balance, and prophylactic penicillin during the leukopenic stage. If the hemoglobin decreases or hemorrhagic tendencies appear, fresh whole blood transfusions should be given. Rutin is thought to be of value in decreasing capillary permeability. Experimental evidence indicates that protamine and toluidin blue are effective in controlling the clotting defect caused by the "heparin like" substance.[14]

A two year follow up of the bomb victims has been made recently. The complete recovery that most of the severely injured patients had made was surprising. Keloid formation was very prominent in the burned patients. This was thought to be due to an inherent factor, poor nutrition, and poor medical care. Some cases still showed fluctuations in the leukocytes. Most bone marrows showed complete recovery and there was no noticeable increase in blood dyscrasias.

Men who studied the results of the Hiroshima and Nagasaki bombings agree that a large percentage of deaths could have been prevented by adequate medical care. Both Japanese cities were completely helpless after the explosion and medical care was almost non-existent. It becomes evident that some national organization must be formed to adequately cope with a similar situation.

Each member of the medical profession should realize this added responsibility and work toward the realization of such an organization.

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Smith, Kline & French Laboratories,

Philadelphia, in 1948 awarded a total of seventy-three grants amounting to $314,761 in support of medical research. Twenty-seven of these grants were made to twenty medical schools, and the balance to institutes, clinics and individual investigators. The funds were provided under three main categories: as scholarships and fellowships; as aids to pre-clinical research in such fields as pharmacology, bacteriology, biochemistry, histology, microanalysis, mycology, organic chemistry, pharmaceutical chemistry and physical chemistry; and for support of investigations in various fields of clinical medicine as hypertension, pain, cardiovascular conditions, epilepsy, anemia, dermatology, obesity, etc.

ANO-RECTAL DISEASE: INCIDENCE IN 300 MALES OF MILITARY AGE WITH PARTICULAR REFERENCE TO POLYPOSIS

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During my service in the army, advantage was taken of an unusual opportunity to determine the incidence of ano-rectal disease in males of military age (between 20 and 40 years of age). This study was carried out in conjunction with Drs. C. M. Caravati and J. M. MacMillan. All patients admitted to the gastro-intestinal wards at Percy Jones General Hospital underwent a sigmoidoscopic examination. There were 223 consecutive admissions to the wards in this group of examinations. A second group of 77 cases was referred to us for sigmoidoscopic examination for hemorrhoids, rectal bleeding or suspected lower bowel lesion. I know of no reports based on examination of consecutive hospital admissions and hence feel that this report is of value in determining the incidence of ano-rectal disease in males of military age. One objection might be that the cases admitted to a gastro-intestinal ward would not constitute a valid cross section of the group studied; however, a large majority of the patients were admitted for peptic ulcer, functional disturbances, hepatitis and its sequelae and similar problems, with only a few being admitted primarily for ano-rectal disease.

TABLE I

CONDITION	WARD 18	OTHER WARDS	TOTAL
Hemorrhoids	44 (19.7%)	32 (41.6%)	76 (25.3%)
Polyps	8 (3.6%)	4 (5.2%)	12 (4.0%)
Proctitis	13 (5.8%)	5 (6.5%)	18 (6.0%)
Chronic Ulcerative Colitis	5 (2.2%)		5 (1.7%)
Hyp. Anal. Papillae	3 (1.3%)	5 (6.5%)	8 (2.7%)
Peri-Anal Dermatitis	3 (1.3%)	3 (3.9%)	6 (2.0%)
Anal Fissure	2 (0.9%)	4 (5.2%)	6 (2.0%)
Cryptitis	2 (0.9%)	2 (2.6%)	4 (1.3%)
Amebiasis	1 (0.5%)		1 (0.3%)
Polypoidosis	1 (0.5%)		1 (0.3%)
	82 (36.7%)	55 (71.5%)	137 (45.6%)
Patients Examined	223	77	300

Table I shows the incidence of ano-rectal disorders in our consecutive group of cases and for contrast the incidence in the cases referred for proctoscopic examination. Hemorrhoids constituted the most common disorder, being present in 25.3% of all examinations, in 19.7% of the consecutive series of cases, and in 41.6% of the referred cases. Proctitis was not uncommon and was notable in two respects. In gastro-enteritis of the non-specific variety seen among the attached personnel there was seldom any demonstrable change in the lower bowel. We also found that enemas have an irritating effect on the rectal mucosa, and soapsuds enemata were particularly irritating. One patient was prepared for examination with soap suds enemata which by error were made with green soap. The mucosa was fiery red and floods of mucus were present. Examination the following day without preparation was within normal limits. Chronic ulcerative colitis of the idiopathic type was not uncommon due to the specialization of the service. Hypertrophied anal papillae, peri-anal dermatitis (due to pruritus ani), fissure in ano, and cryptitis constituted the remainder of the minor findings.

The most important finding to us was the presence of polyps in 4% of the 300 cases, of which 3.6% were found in the routine cases and 5.2% of the referred cases. It is well recognized that polyps of the rectum and sigmoid seen at proctoscopic examination represent either pre-malignant or already malignant lesions. Brust[1] has best summarized what seems to be the present day opinion regarding adenomatous polyps of the rectum and colon.

1. They are more common in men than women, and the ratio of 3 to 2 is identical with that of carcinoma of the same portion of the intestinal tract.

2. The average age in any large series will be about 46 years, and this is about one decade younger than the occurrence of carcinoma.

3. The anatomic location of these polyps closely parallels that of cancer.

4. Symptoms are not characteristic.

5. Polyps measuring less than 1 cm. in diameter rarely produce symptoms.

6. It is difficult and dangerous to state from gross appearance that a polyp is or is not undergoing malignant change.

7. Malignant change in a polyp tends at first to be localized at the periphery and might easily be missed in removing a biopsy specimen.

8. Present day evidence points to the apparently benign polyp as the origin of many and perhaps most of the carcinomas of the rectum and colon.

Brust[1] found an incidence of 5% polyps in 4,000 sigmoidoscopic examinations, excluding hereditary multiple polypoid disease, multiple polyps, or pseudo polyps on an inflammatory basis.

C. W. Mayo[2] stated that one in every thirty-five patients examined sigmoidoscopically at the Mayo Clinic had one polyp or more. One case in every fifty-five examined by barium enema showed one polyp or more. Autopsy findings in 334 patients who had died with primary carcinoma of the colon or rectum showed 34% had polyps in addition to the primary neoplasm, and in 14% of the cases these polyps were already malignant. In an autopsy study of 100 patients who had died after surgical operations performed for conditions other than malignancy it was found that in 16 instances there were polyps of the colon or rectum in 8 of which the polyps were malignant.

Swinton and Warren[3] in a review of 156 patients with polypoid disease of the colon and rectum concluded that polyps of the colon and rectum are true tumors which are premalignant lesions and are more common than has been appreciated.

We have not analyzed our cases according to age groups but the majority were 20 to 30 years of age.

Our findings at proctoscopic examination and study of the tissues removed by biopsy are illustrative of the problem of polyps of the rectum and sigmoid in young men. The majority of the polyps were 2-3 mm. in diameter. In three cases we demonstrated polyps 1-3 cm. in diameter. One of these latter cases was found to have two polyps, one of which was pedunculated and histologically a grade I adenocarcinoma; the second was sessile and a grade II adenocarcinoma. After considerable discussion it was decided that the treatment of choice was abdomino-perineal resection following fulguration of the two polyps. The resected specimen showed no malignancy either locally or in the regional lymph nodes. This patient was referred with the diagnosis of hemorrhoids which were found, but further examination revealed the polyps with malignant changes already present. This emphasizes strongly that the diagnosis of hemorrhoids as the cause of ano-rectal hemorrhage should be made only when complete study of the lower bowel and roentgenologic examination of the colon have been completed and found within normal limits. Only one of our cases had symptoms referable to the polyp and this man had had rectal bleeding attributed to hemorrhoids for three years. We routinely investigated each case in which one or more polyps were found, by means of a barium enema with air contrast technique. The polyps were all treated by fulguration and re-examined at a later date to ascertain the results of fulguration. Fulguration can be easily carried out on polyps below the peritoneal reflection. Polyps above the peritoneal reflection are probably safest treated by surgical removal except in the hands of those who are experts in fulguration. It must be emphasized that a biopsy reported as benign adenoma means little as there may be frank malignant changes in the remainder of the polyp. The polyps beyond the reach of the proctoscope may be treated by simple removal, segmental resection, or obstructive type of resection. Brust feels that the indications for a colotomy are active bleeding, a polyp over 2 cm. in diameter or growth of the polyp being noted on successive examinations.

SUMMARY

1. Proctoscopic examination was carried out on 223 consecutive cases and 77 referred cases, in men of military age.

2. Hemorrhoids were present in 21.5% of all men in the stated age group of 20 to 40 years of age.

3. Polyps of the rectum or sigmoid were present in 4% of all cases examined.

4. The significance of these polyps and their treatment has been discussed.

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1378 Rivermont Avenue.

THE EFFECT OF THE MOON ON CHILDBIRTH

ALBERT G. SCHNURMAN, M.D.,
Roanoke, Virginia.

For centuries it has been well known that the moon causes the tides; that farmers plant by the moon; that hunters and fishermen plan their trips by the moon; that dogs bark at the moon; that lunatics (from luna—moon) are affected by the moon; that lovers attach amorous significance to the moon; and that the average woman's menses are twenty-eight days apart—a lunar month; and that human gestation lasts ten lunar months or two hundred and eighty days.

Since I have been practicing medicine, I have often heard the nurses on the obstetrical service state that "the moon has changed and we will be getting in a new bunch of O. B.'s." I am sure that we have all heard this old tale and passed it off with a grain of salt. I became interested in the subject either to prove or disprove that there is a lunar effect on childbirth. I have searched through the literature but have been unable to find any reference to this matter. Therefore, I set forth to analyze the experience at the Roanoke Hospital over a five year period. If the largest number of births per day fell on a day when the phase of the moon changed or within twenty-four hours before or after the phase changed, then I gave that month credit for its lunar effect. If the largest number of births did not coincide with a change in phase, then no credit was given. Reference to the following table will give the summary of this analysis:

YEAR	NO. OF BIRTHS	BY MONTHS	PREDOMINATING LUNAR PHASE
1943	541	9 out of 12	Last quarter
1944	465	9 out of 12	First quarter
1945	435	8 out of 12	New and full
1946	561	5 out of 12	First quarter
1947	689	9 out of 12	First quarter

It will be seen that in forty out of the sixty months analyzed the largest number of births fell on a day when the moon changed or within twenty-four hours of such change. This is a 66.7% ratio. Whereas, if the matter were purely one of chance, the ratio would be 50% or very nearly so. Further, it will be seen that all phases were potent in affecting the birth statistics and that in three out of the five years a first quarter phase was responsible as the predominating phase.

Just what all this means I am incapable of stating. However, one may theorize that there is a lunar effect—possibly electronic on the amniotic fluid as a body of water just as on the tides in bodies of water elsewhere.

Summary: In an analysis of 2691 births over a five year period it was found that there was a lunar effect to the extent of 66.7%, thus lending weight to an age-old superstition.

501 Shenandoah Life Building.

Interesting, Isn't It?

According to Howard A. Rusk, M.D., in 1948 the Federal Department of Agriculture will spend $52,000,000 on agricultural research; industry will spend $450,000,000 on research to improve manufactured products. The total spent by the government and all private foundations, etc., on medical research will be $28,000,000.

The amount spent on medical research is:
1/300 that spent on alcoholic beverages;
1/6 that spent on phonograph records;
1/3 that spent on non vending coin machines;
1/2 that spent on monuments and tombstones.

—*Connecticut State Medical Journal*

PRE-OCCUPATION WITH PAINFUL MEMORIES AS BASIS FOR NEUROSIS AND PHYSICAL ILLNESS*

JOHN TAYLOR RANSONE, M.D.,
Newport News, Virginia.

In my keen desire to be of service to you, I shall give methods which I have found usually effective in treating most patients with neurosis and patients with functional physical disease.

In my experience habitual pre-occupation involving painful emotions is the chief causative factor in the development of nearly all cases of neuroses, of functional psychoses, and of functional physical disease. In my opinion nervous and physical complaints resulting from psychic trauma vary little with the degree of the horribleness of the occurrence or of the painful memory, *per se;* but they do vary fairly accurately with the amount of time the patient has spent and spends in the resulting pre-occupation. These observations apply both to normal people and to those who have developed a neurotic pattern of behavior. If the above is granted, it follows that a neurosis is fundamentally a life-long habit of pre-occupation involving painful emotions, usually with recurring exacerbations or episodes. In my experience it can be treated successfully as such. The same is true of the various functional physical diseases and of the functional psychoses.

I have been convinced of all of the above by seventeen years spent listening to the complaints and taking histories for therapeutic purposes of office patients and of newly admitted neurotic and psychotic hospital patients. When one diligently seeks out the origin of psychogenic disease, one is impressed with three elements:

1. Distressing environmental factors in childhood.
2. The long-term habit of extensive pre-occupation with these distressing factors.
3. The marked tendency to extend this pre-occupation to more recent psychic traumata.

From tabulations made of a group of 300 consecutive patients native to this section I learn that 42% of patients with psychoneurosis give history of death of a parent or separation of parents during childhood. Fifty-two per cent did not finish the ninth grade in school, usually because they had to help with the family income. Thirty-nine per cent grew up on "Tobacco Road" or in comparable economic circumstances. Eighty-two per cent came in at least one of the above groups. The most important factors are too variable and relative for tabulation. They include invalid, neurotic, or alcoholic parents. The unhappy, inconsistent, over-shadowing, and inhibiting mother is especially important. One or more such factors are admitted readily by cooperative neurotic patients; and, in my experience, careful collateral study demonstrates such factors in all cases. Careful questioning will bring out in every case that the patient is spending hours pre-occupied with the painful memories which the above involve. Do not misunderstand me; none of the above tragedies need result in a neurosis as evidenced by people with such factors who do not become neurotic. In my opinion this is because they lead a full life and spend little or no time in emotional thinking.

The similarity of objective and subjective symptoms of painful emotions, excessive doses of epinephrine with resulting stimulation of the sympathetic nervous system, and neurotic reactions in the great majority of cases, is such that there can be no doubt as to the inter-acting mechanisms involved in the production of neurosis, and of functional physical diseases.[2,3,4,6]

Goodman and Gilman, in their *Pharmacological Basis of Therapeutics* (1941), describe the mild untoward reactions of epinephrine as "fear, anxiety, restlessness, throbbing headache, tremor, weakness, dizziness, respiratory difficulty and palpitation." They could have been describing the effects of painful emotions, or the usual symptoms of my patients and of most of this nation's millions of neurotics.

Another excellent description applicable to all of the above conditions was given by W. B. Cannon as manifestations of excitement, "The contracting of blood vessels [to the skin] with resulting pallor, the pouring out of 'cold sweat' [most commonly noted on the palms], the stopping of saliva-flow

*Address given before the annual convention of the Seaboard Medical Society of Virginia and North Carolina, at Virginia Beach, December 3, 1947.

so that the 'tongue cleaves to the roof of the mouth', the dilatation of the pupils, the rising of the hair, the rapid beating of the heart, the hurried respiration, the trembling and twitching of the muscles, especially those about the lips—all these bodily changes are well recognized accompaniments of pain and great emotional disturbance, such as fear, horror, and deep disgust." Cannon offers clear evidence of the similarity of the action of epinephrine, or, as he calls it, "adrenin", to the painful emotions. He states, ". . . in pain and deep emotion the glands . . . pour out an excess of adrenin into the circulation."[4] He considered this of biological significance in the struggle for survival. Therefore, this response to the danger signal of painful emotions should be as uniformly a part of us as is any other of our faculties.

As a result of adrenin secretion and other factors, Cannon stated that blood pressure "may suddenly rise during extreme effort from approximately 110 mm. to 180 mm. of mercury."[4] He might have added that there is a neurotic or psychosomatic form of hypertension, probably the usual form of early hypertension. Our war experience teaches that palpitation, extrasystoles, paroxysmal tachycardia, and other functional heart conditions are emotional in origin.

Cannon quotes Oliver and Schafer as showing "that injected adrenin drove the blood from the abdominal viscera into the organs called upon in emergencies—into the central nervous system, the lungs, the heart, and the active skeletal muscles." Cannon himself found that, "conditions favorable to proper digestion are wholly abolished when unpleasant feelings, such as vexation and worry and anxiety, or great emotions, such as anger and fear, are allowed to prevail."[4]

Thus we have the physiological bases for understanding why emotional upsets result in gastro-intestinal upsets of all types. If painful emotions persist sufficiently long, mucous colitis or spastic colitis are likely to develop. In the light of our present inability to find any other demonstrable ultimate cause for duodenal ulcers and in the light of clinical observations by experienced doctors that onset and exacerbations of duodenal ulcers usually follow psychic trauma, it appears highly probable that directly or indirectly chronic painful emotions are the basic cause of duodenal ulcer. Where psychic trauma seems minimal or absent, in my opinion, there has been pre-occupation with the sources of former traumata. Perhaps we should look for psychic trauma as an important factor in the development of other types of pathology of the gastro-intestinal tract. In emphasizing psychic factors, Alvarez quoted Ivy's facetious remark that "he had little hope of ever producing the human type of ulcer in dogs until he could get them to worrying about crashes in the stock market."[8]

In the majority of cases of endocrine disturbance we usually are unsuccessful in demonstrating a tangible basic cause such as infection, tumor, senile degeneration, food deficiency, poisoning, physical trauma, or congenital defects. Cannon amply demonstrated that "in man emotional excitement produces temporary increase of blood sugar"[4] and considered that the adrenal gland had a primary role. In view of causative body lesions being not demonstrable at autopsy in many cases of diabetes, it appears appropriate that emotional factors be not ignored, at least until research can explain more adequately the ultimate cause of diabetes in the numerous idiopathic cases. By experience and by extensive study I am convinced that the multiple symptoms occurring toward meal time in the nervous patient including headache, faintness, fainting and convulsions, are emotional in origin and involve the endocrine system and glycopenia. Writing in 1933, Flanders Dunbar, in *Emotions and Bodily Changes*,[6] quoted Bram as demonstrating (in 1921) that of 3343 cases of exophthalmic goitre, 85% presented a clear history of psychic trauma as the exciting cause. Except for occasional tumors, no other cause has been demonstrated. I predict that in the years to come all cases of endocrine disturbance not produced by basic causes demonstrable at autopsy and in the pathological laboratory will be considered as psychogenic in origin.

I call your attention to other examples of the many phenomena which command recognition of their psychogenic origin. Dunbar quoted Cannon as demonstrating that cats in the presence of a dog for one minute showed an average increase in red cells in the blood of 27%.[6] When one recalls that red blood cells have an average life of 80 days, it becomes obvious that these cells added to the blood stream had been stored in the spleen or elsewhere. Thus a normal cell count in a tense or excited patient can be presumed to give a false idea as to the total available red cells. Cannon[4] demonstrated the

hastening of the coagulation of blood in pain and in great emotions. It has been proven that numerous other changes in blood chemistry result from painful emotions.

I now shall discuss what I find in the usual nervous patients referred to me. I consider that they have anxiety neurosis, or, if current nomenclature requires another name, the true psychopathology is always the same, anxiety-like reactions resulting from pre-occupation with the sources of painful emotions. For the purpose of this paper, I omit certain groups of nervous patients; first, patients with organic diseases of the central nervous system; second, a very small group of brilliant people of habitus and of habits we might call the race-horse type who work themselves nearly to death; and, third, a group who by mechanisms of self-deception are relieved of painful emotions by converting them to invalidism.

The remaining patients constitute the great majority of our eight or ten million neurotics and include stutterers, almost all alcoholics, most veterans drawing pensions for psychoneurosis, unhappy housewives, delinquent children, and most criminals. Despite the diversity of their symptoms they are similar in their basic characteristic, i.e., their anxiety-like reactions resulting from habitual pre-occupation with painful memories and emotions. They are similar still further in my opinion in their indicated treatment.

Nervous patients of this every-day type have many traits and factors in common and they are present in nearly every case. These patients exhibit physical evidence of stimulation of the sympathetic nervous system with secretion into the blood of excessive epinephrine and of other pressor substances all of which are in response to long lasting painful emotions such as chronic rage, remorse, fear, anxiety, and conflict. Usually quite a number of such painful emotions are present. Platitudes about suppressing these emotions are useless.

These patients are pitifully lacking in sincere self-esteem, and tend to improve upon sympathetic, patient, and intelligent attempts to bolster their morale.

These patients are self-centered in their meditations; pre-occupied with their own past emotional difficulties, with their own physical complaints, or with anxieties concerning their own future. They tend to improve when they can be inspired to show real self-sacrificing interest in others.

The virtues of these patients are of the perfectionist type; and they are intolerant of imperfections in themselves, in their children, and in others.

These patients are members of neurotic families, and it is often almost useless to treat the patient alone.

As given above, these patients have a history of an unhappy or inhibited childhood, including such factors as an early death of a parent, separated parents, quarreling parents, dire poverty, or an overshadowing mother.

I leave until last, for emphasis, the most important and nearest universal characteristic. These patients have shut-in habits. They are withdrawn, unnaturally introverted, excessively sensitive as to what others may say or think concerning them. Their attempts at correction of these faults, or compensation for them, are usually superficial and pitiful. Pre-occupation with painful emotions results from their lonely habits, their difficulty in sleeping, their inability to get interested in wholesome diversion, and their "dilly dally" way of working. In their meditation there are "kicks in the pants" usually for themselves, their parents, their childhood playmates, their neighbors, their fellow workers, their spouses, and their children. Their frustration, their unsatisfied sex experiences and urges, their conflicts, their anxieties concerning the future, and their resulting physical complaints, also are included often in their unhappy pre-occupation.

A first interview should take two or three hours and end with a mutual understanding and plans for treatment. In the study of any patient the first step is a careful physical history and a thorough physical and neurological examination. The patient is fully aware of many of the numerous factors involved in his case. His rage or his remorse should be softened by an hour or two spent in an emotional ventilation, confession, or catharsis; call it what you will. This gives the patient a much better understanding of himself even before the doctor has said anything other than to lead him on with a few kindly thought-provoking questions. At the end of such a session even the most painful emotions already have far duller edges. The patient is in a fairly receptive mood, and many things can be said to resolve further the painful emotions.

The doctor now has a fair understanding of the patient; and what is more vitally important, the pa-

tient feels that he is understood and now keenly desires instruction and advice. Emphasis is placed upon the fundamental differences between him and wholesome people, i.e., those differences acceptable for therapy. Usually it is feasible to have the patient understand the self-centering involved in his pre-occupation and to inspire him to a more social attitude. The patient has brought out already that he spends many hours a day pre-occupied with the sources of his painful emotions. Emphasis is placed upon this being the fundamental difference between him and wholesome, happy people. After long discussions of the more interesting pastimes available, and a fuller life without any immediate increase in physical activities, every effort is made to inspire the patient to make every waking hour an interesting hour to the exclusion of all painful unproductive thinking. Diversion is to be taken in the company of others as much as is possible, as most of these patients cannot read or listen to the radio without spending half of the time in painful emotional preoccupation. For the first few nights sufficient hypnotics usually must be provided, in decreasing doses, to guarantee sound sleep. The patient is told to get up promptly when he awakens in the morning. Sedatives in the day prevent interest in carrying out the regime, and thus encourage pre-occupation with painful emotions. If the patient is carrying responsibilities the loss of efficiency produced by sedatives may produce panic. Instead, stimulants such as dexedrine are ordered in indicated cases.

In my experience the majority of these nervous patients can be inspired to carry out the above regime whole-heartedly. When these return a few days later, they happily state that they have lost their symptoms such as nervousness, fatigue, throbbing headache, nervous indigestion, and nervous heart symptoms such as palpitation, skipped beat and paroxysmal tachycardia; and above all, they have lost their fear of bodily illness and their anxious expression, for they now understand the cause and the mechanisms involved and know how to handle them. In many cases the regime has been followed only half-heartedly and with only slight improvement. In such cases another hour spent in inspiring the patient usually will be fruitful. The patients constituting the group previously mentioned as using mechanisms of self-deception to obtain relief from painful emotions by converting them to invalidism show poor response to this direct method if used alone.

Success with this simple method requires that the doctor assure himself that he has found or ruled out any physical condition requiring other treatment; and that he have and show unstinting patience, abundant sympathy, faith in the result of this therapy, and ability to inspire that faith.

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Spring Graduate Course.

The Gill Memorial Eye, Ear and Throat Hospital will hold its twenty-second annual spring graduate course April 4th to 9th in Roanoke. In addition to the resident staff, the faculty includes prominent specialists in ophthalmology, otology, rhinology, facio-maxillary surgery, bronchoscopy and esophagoscopy. These are listed in the advertising pages of this issue. Several social features are interspersed with the scientific work. Further information may be obtained from Dr. E. G. Gill, Box 2467, Roanoke, Va.

CONGENITAL TUBERCULOSIS—
A Case Report*

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and
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Charlottesville, Virginia.

From reports in the literature, it would seem that authentic cases of congenital tuberculosis are rare. Authors in reviewing the literature report widely varying numbers of cases. Depending upon the author, the number of authentic cases varies between 63 to 118, with over 500 cases being more or less doubtful.

Conrad,[1] has given an excellent review of the literature on congenital tuberculosis and added one case himself. We have made no attempt to review the literature in this report but wish to add another case of proven congenital tuberculosis to the record.

Case No. 209205—University of Virginia Hospital: C. L. B. was a white female premature infant who was born unexpectedly in a women's medical ward on January 3, 1945. The period of gestation was seven to eight months. The mother, at the time of the infant's birth, was moribund and in an oxygen tent. The baby was taken to the premature nursery immediately where she was given a soap and water bath and placed in an incubator with continuous oxygen. The condition of the baby on admission to the nursery was good. Her birth weight was 1630 grams (3 lbs., 9½ oz.). The placenta was examined microscopically and miliary tubercles were found on both the fetal and maternal surfaces.

No. 1. Chest X-ray, March 24, 1945

Seven days after the birth of the child the mother died of extensive miliary tuberculosis.

No. 2, Chest X-ray, May 19, 1945

The baby was given routine premature care and was fed every three hours a special lactic acid milk formula with nutramigen added.

The infant did well for the first thirty-nine days. The temperature was normal and stable up until that time, and the child had gained 13 oz., weighing 1990 grams or 4 lbs., 6½ oz.

On the fortieth hospital day the child's temperature rose to 102° (R). Fine and coarse rales were heard over the right lung fields both anteriorly and posteriorly but most marked over the right apex anteriorly. The baby was given penicillin, 2500 units intramuscularly, and ¼ % neosynephrine nose drops. Her temperature became normal on the forty-fourth hospital day and remained normal until the forty-seventh hospital day at which time the

*From Department of Pediatrics, University of Virginia Hospital.

temperature rose to 101.2° (R). From the forty-fourth hospital day until the seventy-ninth hospital day, the infant's temperature remained elevated, often reaching as high as 103° (R).

On the fifty-sixth hospital day chest plates were taken. No abnormalities were noted on these films. On the seventieth hospital day another chest plate was taken. These films showed a spotty infiltration involving the upper portion of the right apex. There was a hazy pneumonitis in the left apex and the lung markings extending down into both bases were heavy and fuzzy. The density in the right apex was of a nodular type while that in the left upper portion of the lung was homogeneous.

The mediastium was not well visualized as the baby's body was rotated. There was no evidence of calcification. Tuberculosis could not be ruled out from the chest films. A patch tuberculin test was positive. Routine and special intradermal tuberculin tests were negative at that time.

No. 3, Chest X-ray, July 21, 1945

During the febrile period several urinalyses were done. On one occasion many white cells were seen, but no albumin was present. On another occasion many bacteria were seen. A urine culture was positive for B. aerogenes and B. coli. The white cell count ranged from 14,000 to 7,600. The red cell count varied between 3.3 million and 2.3 million. Blood cultures were negative. The child was given three whole blood transfusions. On one occasion the child had a severe bronchospasm and circulatory collapse. She became cyanotic and almost died. Following the other two transfusions the child had shaking chills.

In spite of the infant's illness, she ate fairly well and gained weight. She was discharged on the eighty-first hospital day weighing 2850 grams (6 lbs., 4½ oz.).

No. 4, Chest X-ray, October 12, 1946

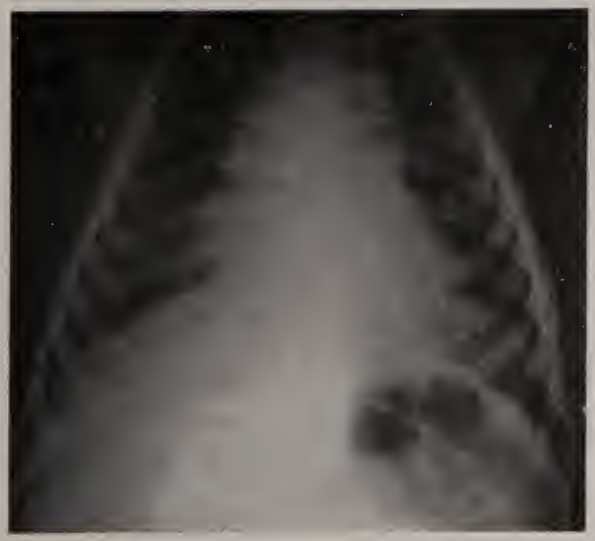
On the day of discharge check chest plates were taken. There remained a marked inflammatory reaction in the upper halves of both lungs which was more marked than at the time of the last examination. There was a mass projecting into the left upper lobe just above the root zone which was thought to be glandular in nature.

Two weeks following discharge when the child was three months of age, she was seen in the Pediatric Clinic. The child had gained 3½ oz. A routine tuberculin skin test was done and this was positive. X-ray plates showed relatively little change in the chest.

On April 28th, when the child was three months and three weeks of age, a patch tuberculin test was done. This test was positive.

On May 19th, when the patient was four and one-half months of age, she was seen again. She weighed 7 lbs., 14¾ oz. This represented a gain of 10¾ oz. Check plates at this time showed the spotty infiltration in the right upper lobe to be more marked. The individual spots were larger, softer and tended to coalesce. It was thought that a few small soft calcifications could be seen in the right hilar region. The upper and lower portions of the left upper lobe were opaque. The left upper lobe was consolidated and the right upper lobe was more extensively involved.

On July 21, 1945, when the child was six months



No. 5, Chest X-ray, June 6, 1947

and eighteen days of age, she was seen again in the Pediatric Clinic. She weighed 9 lbs., 5 oz. This represented a gain of 1 lb., 6 oz. Her aunt said that she was not eating well, and that, for the past six weeks, there had been a clear sticky discharge from both ears. Acid-fast smears of the discharge were positive for tubercle bacilli, Gaffky #2. Check plates at that time showed no appreciable change in the chest.

The patient was not seen again until June 6, 1947, when she was two years and six months of age. At that time she weighed 19 lbs., 8 oz.

Films of the chest showed calcium deposited in the right upper lobe and throughout the inner zone of the entire left lung, giving it a mottled appearance. It was thought that there was a soft infiltration into the right apex and left base and possibly the right base. This was thought to be suggestive of active tuberculosis.

SUMMARY

A case is reported of a premature infant born of a mother with miliary tuberculosis. The placenta had tubercles on both the maternal and fetal surfaces. Positive tuberculin tests and chest X-rays were obtained. Finally, the tubercle bacilli were recovered from a draining ear. At the age of 23 months this child is still living.

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British Doctors Flooded With Patients.

British doctors are so flooded with patients under the National Health Service that they do not have time to examine serious cases, reports the regular London correspondent of *The Journal of the American Medical Association.*

In the November 13 issue of *The Journal,* the correspondent says in part:

"With the onset of colder weather, doctors now complain that they are so flooded with patients under the National Health Service that they do not have time for the examination of serious cases.

"Hypochondriacs and persons who have only such ailments as slight colds, for which they would not trouble a doctor if they had to pay, come in numbers.

"At the first annual meeting of the Executive Councils' Association of the National Health Service, the Minister of Health, Mr. Bevan, confirmed this waste and referred to other forms of waste as follows:

" 'Because things are free is no reason why people should abuse their opportunities. This is a very great test of the maturity of the British people, in so far as they have all the resources of the medical profession at their disposal without charge. The general practitioner has a very great responsibility. Over-prescribing can be as bad as under-prescribing. Some general practitioners are very conscious of the impressiveness of long lists of drugs in their prescriptions on the psychology of their patients.'

"Mr. Bevan said that it seemed that an extraordinary proportion of the population had bad sight. The rush for spectacles had been so great that it had overtaken productive capacity."

THE PROFESSIONAL RESPONSIBILITY IN THE CONTROL OF CANCER*

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Because cancer has advanced in the last 25 years from the seventh to second place as a cause of death in the United States, a broad and intensive national campaign to fight it is necessary. Paradoxically, the scientific discoveries, medical advances and public health measures that have made it possible for more Americans to live longer have also made it probable that more Americans will die of cancer. It is in the middle and late years of life that cancer takes its greatest toll. Babies born in the United States today have a life expectancy of 66 years. With this gift of longevity goes a penalty: 20% of the boys and 22% of the girls, it is estimated, will have cancer sometime in their lives. How many die of it depends upon whether some means of prevention or cure is found, or, failing that, whether the cancer is detected early enough for successful treatment by the three present day methods—surgery, X-ray or radium.

It was not until physicians realized that early diagnosis was the first essential step, did the mortality from cancer show a decrease. It seems strange now to contemplate the countless number of years before this simple observation forced itself on the minds of the physicians. It does not appear to be so long ago when, in my college days, the keenest diagnostician was the one who could feel the mass of a gastric neoplasm with little or no interest in finding a better method of making an earlier diagnosis.

In many ways our medical schools have been slow in bringing to the student body even today the proper approach to this problem. Very little correlative emphasis has been placed on the subject of cancer in the preclinical years and not sufficient coordination of the instruction in the clinical years. The time, in my opinion, has come when every student should be exposed to a well regulated detection tumor clinic where exhaustive studies are made, not only on diagnosis but on the more recent developments in treatment. Our medical school has such a clinic but to what extent this new departure in teaching will succeed will depend not only on the setup in the school curriculum but also on the enthusiasm and sound leadership of the physicians in charge of its policy. The faculty responsibility in creating for the students a detailed course in neoplastic diseases is a logical one and should be mandatory in every school of medicine. In no other way can the next generation of physicians be trained to carry out this duty to society. Much discussion is now being given to the merits of a "vertical" plan of teaching cancer. Cancer is, at present, given a "horizontal" treatment, that is, the subject is presented in many departments of the medical school and in the clinics specializing in diseases of some particular part of the body. A vertical method of teaching cancer would bring this knowledge to him as a unit. Such integrated instruction would permit the class to have a more comprehensive grasp of the medical problem and thus encourage a keener insight into this disease.

The second professional responsibility in cancer control is in the reeducation of ourselves, as well as other physicians, in our attitude toward this problem. It is not enough for a physician to remember what he was taught as a student. Medicine is not static, and unless, by study and the attendance on post-graduate clinics, he keeps himself informed on these matters he becomes a liability in the offensive against this deadly enemy of mankind. Too often a patient in good faith goes to such a physician for an examination and is called a neurotic for her justifiable concern. It must not be forgotten that every patient is a potential cancer victim and she is entitled to a painstaking study, regardless of her complaints. In a matter of this magnitude every physician must recognize his own limitations, both in training and equipment. When either of these essentials is lacking, no distance is too great to seek assistance when a doubtful lesion presents itself. It is better to have a dozen unnecessary biopsies and find one unsuspected malignancy than to ignore the entire group. It must be remembered that to many of us, who were in school 25 years or more ago, cancer was indeed usually a

*Presented in a Symposium on Cancer Control at the annual meeting of the Virginia Chapter of the American Cancer Society, March 26, 1948.

fatal disease and it did not make much difference whether a correct diagnosis was made or not. In view of recent advances in diagnosis and treatment, it behooves us to revamp our thinking in such instances and give our patients the benefit of the best possible advice. Much is now being done to remove this handicap. Refresher courses are increasing annually, city and county societies are stressing cancer control on their programs, popular magazines are providing worthwhile articles and the public is demanding an enlightened medical profession. The family physician is the main cog in this campaign for early diagnosis, and unless he adopts a high standard of procedure many opportunities for cancer control will be lost. Dr. Frank Adair has listed ten points on "What a Doctor Looks for at a Periodic Cancer Checkup." They are worth repeating:

1. He examines the skin of the face, body, and extremities for scaly, bleeding warts, black moles, and unhealed scars.
2. He examines the lips, tongue, cheeks, tonsils, and pharynx for persistent coughing.
3. He examines every woman's breasts for lumps or bleeding nipples.
4. He examines the subcutaneous tissue for lumps on the arms, legs, or body.
5. He investigates any symptoms of persistent indigestion or difficulty in swallowing. He palpates the abdomen.
6. He examines the lymphoid system for enlargement of the nodes of the neck, armpit, groin, etc.
7. He examines the uterus for enlargement, lacerations, bleeding, or new growth. He makes a bimanual examination to determine the condition of the ovaries.
8. He examines the rectum, and determines the cause of any bleeding or pain.
9. He examines the urine microscopically for blood.
10. He examines the bones and obtains an X-ray diagnosis of any bone that is the seat of a boring pain, worse at night.

The third professional responsibility toward cancer control is to bring home to the people the need for their complete cooperation. An early diagnosis cannot be made unless the patient presents herself for study and an effective cure cannot be brought about unless she accepts the well considered judgment of the clinician. Naturally there will be differences of opinion and at times mistakes will be made.

In dealing with the public, every physician finds that fear of cancer and the alleged disgrace of cancer and the impression of the incurability of cancer are among the most formidable obstacles in the early diagnosis of this disease. In some instances fear is the motivating influence that drives the patient to the physician for counsel. Fear, however, may magnify in her mind evidences of disease that do not actually exist and thus create an unjustifiable phobia with its attendant ills. On the other hand, fear of cancer may cause a withdrawal within herself and so inhibit her natural desire to seek aid in this unhappy situation.

Mass education is the only cure for this dilemma. An enlightened person can help herself. Enlightened relatives can save the lives of loved ones by insisting on early examinations and prompt action on the recommendations following such examinations. These are problems of a psychiatric nature which must be educated out of the lay mind if we expect to obtain their complete cooperation. The physician has the opportunity to discuss these attitudes with them and with a judicious approach can go a long way toward dispelling these pathologic concepts of cancer.

The family physician is the proper person to disseminate the knowledge about cancer control among the people, as it is only through him that adequate steps can be taken to lower its mortality.

The American Cancer Society through its subsidiaries has carried on a nation wide campaign to enlighten the people not only how cancer can be detected but that cancer is curable when an early diagnosis can be made. The physicians constitute the steering committee as well as liaison officers between the trained laboratory investigators and the public. Their task is a stupendous one because it is due to their wise counsel as well as to their alertness in ferreting out the early signs of malignancy that cancer will be ultimately brought under control.

Medical Arts Building.

FACTORS IN PREGNANCY AFFECTING THE NEWBORN*

F. N. MULLEN, JR., M. D.,
Norfolk, Virginia.

There are certain factors in pregnancy that affect the newborn. There are certain congenital defects that are caused by these factors. There are certain congenital anomalies that are hereditary. There are some anomalies that may be due to hereditary influences at one time, and to some adverse factor in the mother another time. For instance, congenital cataract may be hereditary through the genes or it may be caused by a mother having German measles (rubella) during the first trimester of pregnancy.

I have attempted to review the literature to find the known factors in pregnancy which may cause a defective newborn, and also other factors which according to experimental evidence in animals may cause defects.

Within the last few years certain observations and discoveries have contributed to the better understanding of conditions affecting the fetus and the newly-born infant. Among the most important of these have been: (1) the recognition of the harmful effect on the fetus of German measles during the early months of pregnancy, (2) the discovery of the Rh factor and its relation to erythroblastosis, (3) the experimental work in nutritional and vitamin deficiencies in producing anomalies, and (4) experiments on pregnant animals with x-rays and radium rays producing congenital malformations.

First, what infections during pregnancy may produce defects in the newborn? It has been recognized for sometime that any illness during pregnancy is likely to have occasional serious effects on embryonic growth and development. It was noted in the epidemic of influenza in 1918 that practically every prospective mother who acquired the disease died or aborted a dead fetus. It is significant that this epidemic has now been discovered as having been due to a virus. Embryonic tissues are more susceptible to infections than adult tissue. This is the basis of Goodpasture's virus culture technic. The human embryo possibly possesses the same susceptibility to infection. The virus may pass the chorionic villi more readily than bacteria before a placental barrier has been developed. Recently pediatricians and obstetricians have been aroused by what appears to be a definite association between certain congenital anomalies or defects, and virus infections in the mother during pregnancy. This interest was particularly aroused when Gregg[1] in 1941 reported before the Opthalmological Society in Australia, 78 cases of congenital cataract in children whose mothers had German measles during the first three months of pregnancy, during a large epidemic of German measles which broke out in New South Wales in June to August, 1940. Following this Swan[2] and his co-workers examined these cases as they grew older and found that they had heart lesions, deaf-mutism, and most of them were microcephalics. In 1946 Swan and Tostovin[3] studied 56 infants and 2 fetuses; 46 of these had congenital malformations. In 40 cases the mothers had German measles in pregnancy. Thirty-six of the infants and one fetus had congenital defects. The abnormalities comprised 11 cases of deaf-mutism, and 11 cases of both deaf mutism and heart disease. There were combinations also of cataract and heart disease. There was one case of mongolism and heart disease. Other cases were spinabifida, cleft palate, microcephaly, spastic diplegia and mental defectives. In most of the cases the mothers had had German measles in the second and third months of pregnancy, only 2 in the fourth month, and 1 each in the fifth, sixth, and eighth months. There were three instances in which the infants were born normal, the mothers having had the disease in the second, fourth and sixth months of pregnancy. There were 16 cases of infectious diseases during pregnancy other than German measles. There were 8 cases of red measles (Morbilli) (2 babies were defective), 3 cases of mumps (all babies had defects), 2 cases of chickenpox (1 baby was malformed), 2 cases of herpes zoster (both babies had abnormalities), and 1 case of scarlet fever (the baby was defective).

There have been other reports in the American literature and also from other countries confirming these observations. In 1944 Reese[4] in this country reported 3 cases of congenital cataract. Erickson,[5] the same year, reported 11 cases and all but 2 had

*Read at the annual meeting of the Medical Society of Virginia in Roanoke, October 13-15, 1947.

congenital heart disease, and 9 had cataracts. Perara[6] reported one case with cataract and congenital heart disease. Carruthers[7] from Australia reports 7 cases of deaf-mutism following maternal German measles during the first three months of pregnancy. Adams[8] of Minneapolis reports 2 cases of congenital cataract and heart disease. Albaugh[9] of Los Angeles reports 9 such cases. Altman and Dingman[10] of New York report 1 case of cataract. deRoeth and Greene[11] report 2 cases of congenital cataract, one of which also had heart disease and the other had microcephaly. Dupont Guerry[12] of Richmond, Virginia, reported in 1945 2 cases of congenital glaucoma. In 1946 Pendergrast[13] of California, through a survey made by questionnaires to 91 obstetricians, ophthalmologists and pediatricians, reports 80 cases of congenital cataracts and 10 other ocular defects, 32 cases of cardiac defects and 10 cases of other congenital anomalies following maternal German measles. In 1946 Goar and Potts[14] from Houston, Texas, reported 6 cases of congenital cataract from their office in one year, following an epidemic of German measles in that area in 1942-1943. All cases had other defects, usually congenital heart disease, and some were mentally defective. All cases of maternal German measles occurred in the first three months of pregnancy. In 1945 Christie et al.[15] of Vanderbilt reported 5 cases of congenital defects, cataracts, heart disease, and one case of mental deficiency from maternal German measles in first three months of pregnancy.

Concerning deaf-mutism there have been several surveys made from schools of the deaf and dumb. Hopkins[16] contacted, by way of questionnaires, 116 mothers of children at the Clarke School for the Deaf and of these 10 replied that they had German measles during the early months of pregnancy. Two others had influenza. Another inquiry was made at Cuckfield House Oral School for the Deaf in Sussex, England, and of 18 children in the school, a history of German measles in the mother was obtained in 8. All cases were within the first four months of pregnancy. Surveys were made at three larger English schools for the deaf, in Manchester, Dorchester and Birmingham and a history of maternal German measles was obtained in 15 per cent of the deaf children.

I have been able to find a total of 312 cases of congenital defects reported in the literature from maternal German measles during the first three months of pregnancy. In the total cases, 80 per cent of the offsprings had cataracts; 62 per cent were mentally defective; 57 per cent were found to have heart disease; 54 per cent of the total were found to have the combination of cataracts and heart disease. Other anomalies found were deaf-mutism, mental deficiency, microcephaly, hypospadius, microphthalmus, and obliteration of the bile ducts. There was no apparent relationship between the severity of the disease and the defect, but there was a definite relationship between the time of the illness in terms of fetal age, and the type of defect. There were more cataracts and heart disease from 6 to 8 weeks of fetal life, which corresponds to the development of the eye lens at that time, and more deaf-mutism if the disease occurred at 8 to 12 weeks of fetal life, which corresponds to the embryonic development of the cochlea of the ear.

Of the other disease which have long been known to affect the newborn, the most important is *syphilis*. Congenital syphilis is caused by the placental transmission of Treponema pallidum. Of the pregnancies occurring in untreated syphilitic women, around 30 per cent will result in the death of the fetus before delivery and approximately 80 per cent of the children born alive will have the disease with defects which are familiar to you all. *Fetal smallpox* has been observed in fetuses older than three months. After having an attack, the fetus may recover and be born with scars. Rare cases of *fetal measles* and *scarlet fever* have been reported. There is an increased incidence of various congenital anomalies in infants born of *diabetic mothers*. In adequately treated mothers the neonatal mortality rate has been reported from 12 to 20 per cent, and on inadequate treatment 60 to 70 per cent. Since the discovery of the *Rh factor* in the blood and its relationship to erythroblastosis, we have found another explanation for a congenital disease for which we formerly did not know the cause.

Nutritional factors may adversely influence the embryo. Maternal dietary deficiency may induce malformations in the young. There is no way at present of estimating how frequently maternal dietary deficiency is actually a factor in the etiology of mammalian defects. However, experiments and observations in this field give an insight into some of the normal chemical processes essential for prenatal development. They show that a lack of dietary elements which cannot be synthesized by the

mothers or the embryo may cause pathologic conditions in the embryo.

Iodine deficiency in food and water results in goiter in man as well as in animals. In many regions of Europe, Asia, and South America endemic goiter of the parents is associated with endemic cretinism of the children. The serious mental and physical retardation of the offspring is due to a lack of iodine in the maternal diet. That deficiencies of other nutritional constituents of the maternal diet may result in defective offspring has been demonstrated in animal experiments. Congenital blindness, microphthalmus, and anophthalmus have been attributed to a deficiency of vitamin A in the maternal organism. Warkany[17] of the Childrens Hospital Research Foundation of Cincinnati has observed congenital defects of the eyes in the offspring of rats raised on a diet free from carotene and vitamin A. Congenital defects such as cleft palate, fusion of ribs, and syndactyly can be induced in rats by maternal riboflavin deficiency according to experiments of Warkany[18] and co-workers. Congenital bowing of the bones of the fore arms and legs is seen in rats whose mothers have been fed a diet without vitamin D and with an abnormal Ca: P ratio. These deformities can be prevented by the addition of vitamin D to the maternal diet.

X-rays and radium rays are capable of arresting embryonic development and of producing congenital malformations. It has happened repeatedly that women who were exposed inadvertently to therapeutic doses of x-rays during the first few months of pregnancy have given birth to defective children. Microcephaly, mental retardation, spinabifida, deformities of the extremities have been found in such children. Murphy[19] and other animal experimenters have been able to produce congenital anomalies in the offspring of rats who have been exposed to roentgen rays at different stages of fetal life. Just what effect atomic rays will have on the offspring of the pregnant is not known, but it is thought that they undoubtedly will cause defective offspring.

Age or some endocrine disturbance associated with age is thought to be a factor in causing mongolism. Most cases of mongolism are from mothers over 40 years of age. Forty-one, according to Bleyler,[20] is the peak age of mothers producing mongoloid offspring.

SUMMARY

1. Infections during pregnancy may cause congenital defects in the newborn. German measles in almost 100 per cent of cases will cause congenital cataracts, heart disease or deafness if the mother has the disease during the first 8 weeks of fetal embryonic life. Other virus diseases have produced congenital defects.

2. Nutritional deficiencies in the mother and in particular the absence of certain mineral elements or vitamins can cause defects in the offspring.

3. Actinic rays, either radium, atomic or roentgen rays are capable of arresting embryonic development and producing malformation.

Physicians should inquire into the newborn mother's history during pregnancy and record all illnesses or unusual conditions so that data will be available for the proper evaluation of factors in pregnancy affecting the newborn.

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412 Medical Arts Building.

DISCUSSION

DR. LEE E. SUTTON, JR., Richmond: Dr. Mullen has just given us a nice review of the etiological agents which are believed to be factors causing general defects in infants. Just recently there has appeared in Volume 2 of Advances in Pediatrics, published by the Interscience Publishers, an article entitled "Etiology of Congenital Malformation" by John Warkany of Cincinnati. If you wish to know more about this subject you will find his article to be very interesting reading.

At first it was thought that malformations were due chiefly to faulty genes and the occurrence of malformations was explained by Mendel's law of inheritance. More recently it has been demonstrated that environmental changes acting on the early embryo will produce deformities as has just been brought out by Dr. Mullen's paper.

It seems that congenital defects may be due either to heredity based on faulty genes or on abnormal environmental conditions acting on the development of the embryo. Which of these two conditions produces a deformity is difficult to determine in many cases. However, it is important for the patient that the physician knows which of these two factors has brought about the abnormality for the former is transmitted to subsequent offspring while the latter is not.

Avoidance of etiological factors can be carried out provided the physician recognizes these factors which have precipitated malformations and sees that the patient is protected against them. Prescribing a balanced diet, protecting the pregnant mother from actinic rays, infectious diseases, etc., during the early months of pregnancy will tend to eliminate congenital malformations. Where the factor appears to be genetic, birth control can be advocated.

Much has appeared in literature about rubella being the cause of congenital abnormalities. It might be wondered why rubella, being one of the mildest of our communicable diseases, should be credited for producing eye and heart changes while the severer of the virus diseases do not as frequently. This may be explained by the fact that the severer diseases will bring about the death of the embryo while a much milder disease is not sufficient to cause death but will bring about minor disturbances in development.

It is hard to convince one that rubella is the culprit as frequently as described in literature, for most of the authors assume the mother had rubella because she had a rash months previous, making a diagnosis through a non-scientific approach.

Experience with rubella convinces one that at times rubella is one of the hardest diagnoses of which to be certain. Even Holt's textbook stated that the diagnosis of rubella is so difficult to make that one should not make the diagnosis unless an epidemic is present. Yet some of these authors have made the diagnosis only on hearsay, or history of rash.

A physician has said that if a pregnant mother during the first three months of pregnancy has rubella she should be aborted. Another states that all young girls should be exposed to rubella when young so they will not be able to contract the disease when pregnant.

Exposure to rubella does not guarantee getting the disease. It is quite possible that more do not get the disease than do when exposed to it. Failure to get the disease at one exposure does not prevent one from getting it at another.

If a pregnant mother, during the early months, is exposed to rubella, one is certainly justified in giving convalescent serum obtained from an individual who has just convalesced from rubella. This should prevent her from contracting the disease. If not available, immune globulin can be tried. There is certainly nothing to lose by such therapy and a great deal to gain if the patient does not develop rubella.

DR. CLARENCE PORTER JONES, JR., Newport News: What is Dr. Mullen's position in the case of measles at

six weeks of pregnancy? Would he recommend therapeutic abortion, or not?

DR. W. AMBROSE MCGEE, Richmond: May I say a word? I cannot believe that German measles is half as bad as the literature says when there are so many cases of German measles and so few cases of cataract, if you are going to use that as an illustration of the defects, and of deaf-mutism. I have seen quite a few cases given immune globulin who did not develop these defects. I have seen a few mothers whose physicians said they had German measles, and their children did not have any trouble like cataracts or deaf-mutism later.

DR. MULLEN, closing discussion: In answer to Dr. Jones' question, I would recommend therapeutic abortion in the case of maternal German measles at six weeks of pregnancy.

I think it would be advisable to recommend that female children be exposed to German measles before the age of puberty.

CORRESPONDENCE

British Medicine.

To the Editor:

Dr. R. M. B. McKenna of London, whom you met and so kindly brought to my house two years ago, writes me in reply to a question as follows:

"The State Medical Service is getting slowly underway, and is causing many grievous hardships, especially to the country practitioner, who spends much time travelling from place to place and consequently cannot claim for as much money on a per capita basis as other more fortunately placed colleagues in the towns.

"The profession has had a considerable shock because of the number of middle class and upper class patients who were expected to stay on the private list but who have elected to be treated under the State regime. In most cases 97% of the patients have gone in for the State Service. This, of course, is an indication of the effect of long continued taxation which has made the average householder feel that if he has to find and contribute for the state scheme a sum of 8/—a week he might as well get his money back. I do not think that I can blame him. Most of the consultants up to date have found that their private patients will come along fairly satisfactorily because these cases do not want to go to the hospital, but doubtless in time this state of affairs will settle down. Meanwhile at the hospital we are full to the brim with out-patients who come even to get certificates for wigs! I do hope that you avoid all this trouble in the States."

I thought this might be of value to you in the efforts you are making.

Richmond, Va.

THOMAS W. MURRELL, M.D.

January 17, 1949

EDITOR'S NOTE: Dr. McKenna was a general in charge of dermatology in the British Army.

PUBLIC HEALTH

L. J. ROPER, M.D.,

State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for December 1948, as compared with the same month in 1947, and for the period of January through December 1948 compared with the same period in 1947, is as follows:

	Dec. 1948	Dec. 1947	Jan.-Dec. 1948	Jan.-Dec. 1947
Typhoid and paratyphoid	10	4	136	164
Diarrhea and dysentery	275	112	4,494	4,921
Measles	1,251	339	7,749	8,000
Scarlet fever	92	132	899	1,316
Diphtheria	36	46	265	273
Poliomyelitis	7	1	569	173
Meningitis	7	6	91	101
Undulant fever	8	2	82	74
Rocky Mountain spotted fever	0	0	64	67
Tularemia	7	10	58	60

THE CENTENARY OF PUBLIC HEALTH*

1948 marked the centenary of the public health movement launched in England in 1848. From small beginnings have come developments in sanitary and hygienic services that have made life safer and happier throughout the world. It is paradoxical that while the century has experienced two world wars unparalleled in their destructiveness, it has also seen unparalleled achievements in public health and medical advancement.

It is significant to compare mortality figures in Massachusetts 1856-65 (the earliest reliable data in the United States) with those for 1945:

The death rate from all causes reduced 32 per cent

Infant mortality reduced 70 per cent

Mortality from typhoid fever and certain other communicable diseases virtually eliminated

Mortality from tuberculosis lowered from 450 per 100,000 to less than 40 per 100,000

Life expectancy in Massachusetts in 1850 for a male at birth was 38.3 years, in 1940 it was 63.3. In white females the corresponding increase was from 40.5 to 67.6 years.

The decline in maternal deaths has been particularly marked in the past two decades. The rate in 1947, fifteen deaths per ten thousand live births, is the lowest on record. There are a dozen states in which fewer than ten puerperal deaths occur for each ten thousand live births registered. Some of the factors responsible are prenatal care, increased number of hospital deliveries, the sulfa drugs, penicillin and blood transfusions.

It is not the purpose of this recital of achievements during the past century to encourage pride and self-sufficiency. Too many problems remain unsolved for the medical profession to rest on its laurels. Among the unsolved problems are cancer, the increase of mental derangements, the lack of epidemiological knowledge and therefore effective control of poliomyelitis, the prevention and treatment of cardio-vascular lesions, accidents in the home, on the job or from motor cars, and the underlying conditions leading to the rising incidence of suicides, homicides and alcoholism.

We can only hope and work toward the end that the century before us may see as much progress as the one that ends.

*Source: A paper presented by Dr. Louis I. Dublin before the A.P.H.A., November 9, 1948.

MEDICAL SOCIETY OF VIRGINIA
REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

The Interim Session of the House of Delegates of the American Medical Association was held in St. Louis November 30—December 1, 1948. In accordance with the method of procedure previously adopted, each state has the privilege of nominating a candidate for the award for exceptional service to a general practitioner. Of the candidates nominated from twenty-three states, three were selected by the Board of Trustees and presented to the House of Delegates for final choice. Dr. W. L. Pressley, of Due West, South Carolina, was chosen by the House and received the award. Dr. Pressley is a native of South Carolina but has many friends and acquaintances in Virginia, having played professional base ball in the Virginia League before and after graduating in medicine, and having served as intern and resident in the Jefferson Hospital at Roanoke, 1912-1915.

For the first time in the history of the Association, a medal and citation were awarded by the House of Delegates to a distinguished layman in recognition of his services to American Medicine. The recipient of this award was Father Alphonse Mary Schwitalla, Dean of the School of Medicine of St. Louis University, and widely known for his outstanding contributions to hospitals, medical education and nursing.

The question of the promotion of a national insurance company to supplement on a nationwide basis the coverage now offered locally by Blue Cross and Blue Shield plans again came up for discussion. Mature consideration had already been given this matter by the Council on Medical Service whose adverse report had been furnished each delegate. Nevertheless, at a three hour hearing before the Reference Committee on Medical Service and Prepayment Insurance Plans, the subject was warmly debated by able speakers on both sides. That committee recommended against the formation of a nationwide insurance company and the recommendation was adopted by the House of Delegates.

Undoubtedly the most conspicuous action taken by the House of Delegates was the decision to assess each member of the Association twenty-five dollars to finance an educational program. It has become abundantly evident that the present administration, through the office of the Federal Security Administration is waging an active campaign in the cause of compulsory health insurance. A stream of propaganda has flowed from Washington belittling the accomplishments of medicine in the past, exaggerating the lack of medical care throughout the country at present, and exalting the preposterous claims of those who advocate free health coverage to all the people at the expense and under the control of the Federal Government. The American Medical Association has been and is unalterably opposed to Federal Medicine, not only on account of the enormous expense involved, but because it would result in an inferior type of medical care for the American people. It is, therefore, deemed necessary at this time to exert every effort to inform the people as to what has been done up to the present time by a free medical profession, of what may be done through voluntary prepayment plans, and particularly as to the fallacies inherent in socialized medicine. These will be the objectives of the educational program to be supported by members of the American Medical Association.

To plan and supervise the important educational campaign, a special committee to be known as a "Coordinating Committee for the Protection of the People's Health" was formed. This committee consists of four members from the Board of Trustees, of whom Dr. Walter B. Martin is one, and three from the House of Delegates.

J. MORRISON HUTCHESON, M.D.
H. B. MULHOLLAND, M.D.
Delegates.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... Mrs. R. M. Reynolds, Norfolk
President-Elect ..... Mrs. C. E. Holderby, Hilton Village
Recording Secretary ..... Mrs. T. S. Chalkley, Richmond
Corresponding Secretary ..... Mrs. Charles Lupton, Norfolk
Treasurer ..... Mrs. Reuben Simms, Richmond
Parliamentarian ..... Mrs. H. W. Rogers, Norfolk
Historian ..... Mrs. M. H. Harris, West Point

Public Relations Conference.

The Roof Garden of the John Marshall Hotel was the scene of a very interesting meeting on Saturday, January 15th, when an enthusiastic group of men and women gathered at ten o'clock to hear discussions from many distinguished speakers on The Story Behind the Campaign for Socialized Medicine.

This meeting was arranged by the Public Relations Department of the Medical Society of Virginia, under the leadership of Mr. Henry S. Johnson, Director. He sent invitations to the officers of the Woman's Auxiliary to the Medical Society and to each local group inviting them to this meeting and also to lunch. The meeting was called to order by Mr. Johnson, who presided. A large group of women responded. Our President, Mrs. Reynolds of Norfolk, was presented to the Society and its guests. She thanked the Society for the gracious invitation and in well chosen words offered the services of the Auxiliary in any way they wished to use us in the fight against socialized medicine. Many interesting and instructive plans were unfolded to us as a basis for our usefulness in this fight.

Drs. Emmett, Roper and Mulholland, who compose the committee on Public Relations, presented many helpful ways in which we might serve in this fight, viz., in our clubs, our Parent-Teacher meetings, as well as our auxiliary—in other words, never to lose an opportunity to give voice to the false philosophy of this movement in all our contacts with people. We can tell what has been done in the fight against tuberculosis and all the many diseases that have killed our people and what is being done now to combat cancer and heart disease under our present system.

After the delightful luncheon, the Auxiliary was invited to a room with Dr. Rucker, President of the Medical Society of Virginia, and members of the Public Relations Committee, where we were given the opportunity to ask questions. After these were answered, we returned to the Roof Garden, where we heard the two main speeches of the day and which were broadcast on WRVA. The first speech was by Mr. Lawrence Sullivan, Washington reporter and author of "The Case Against Socialized Medicine". He called the program "something which the Communists are trying to put over on the people". Mr. Sullivan also declared that England has felt a decline in professional standards since the start of the program last year and added that the worst of all is the utter disappearance of the personal relationship between physician and patient.

The next speaker, United State Senator A. Willis Robertson, was introduced by Mr. J. Vaughan Gary, who commented that he believes in the free enterprise system and that the system should be preserved for the professions as well as for business.

We were convinced socialized medicine is not what is best for our people. It behooves us as an Auxiliary and as workers in all other organizations for the good of our doctors and our American people to educate the public against this frightful movement toward Socialized Medicine and resolve as never before that with a big, hard and united effort on our part—"It shall not pass".

Ellie C. Campbell (Mrs. Hawes)

Leigh-Hodges-Wright Memorial

The Leigh-Hodges-Wright Memorial has been one of the chief projects of the Woman's Auxiliary to the Medical Society of Virginia for the past twelve years. At the annual meeting which was held in Staunton, in 1936, a recommendation made by Mrs. Fletcher J. Wright, who was at that time President of the State Auxiliary, that the expense of supporting a bed in one of our state tuberculosis sanatoria to be used by a physician, or a dependent member of a physician's family, was adopted. Members of the Advisory Council approved this with much interest.

At the next meeting of the State Auxiliary Board, a committee was appointed to make definite plans for this, and authority given this committee to decide upon all applications, and other affairs concerning this newly created fund, which has always been given voluntarily by the Auxiliary groups. Since then each Auxiliary has included this project in its budget, and sends contributions regularly for this fund.

In 1938, it was voted at an annual meeting to adopt the name "Leigh-Hodges-Wright Memorial", in honor of the memory of these three physicians who had all served on the State Advisory Council.

During the first months after its beginning, the fund was used to aid the daughter of a retired doctor, who was a patient at the Blue Ridge Sanatorium. After her discharge, much satisfaction was found in helping a young man stay at the sanatorium who found it necessary to go there just before graduating in medicine at the University of Virginia. It was necessary for him to stay there for a number of years, but he finally regained his health sufficiently to allow him to graduate in medicine.

The next patient to use this fund has been discharged for some time, and is now on the medical staff at the Blue Ridge Sanatorium. One more patient since was "adopted", but was able to leave the sanatorium some months ago, though is still a patient at his home.

Both state sanatoria have been notified that the fund is now available when it is needed, and the committee is always ready to receive any recommendation for any one eligible, from any doctor, or others who may wish some one considered.

Until it is needed again, the committee asks each Auxiliary to continue its fine support, always with the hope that through this means, the Auxiliary will be prepared to meet the next emergency when one occurs.

MRS. FLETCHER J. WRIGHT
MRS. REUBEN F. SIMMS
MRS. JOSEPH BEAR
Committee

Richmond Auxiliary.

The Woman's Auxiliary to the Richmond Academy of Medicine met on December 17th, at the home of Mrs. Thomas Wheeldon, President, for a program of Christmas Music.

Mrs. Benjamin Sheppard sang selections from the "Messiah", accompanied by Mrs. Charles Romaine at the piano.

This was followed by group singing of Christmas Carols, with Mr. William Cook as pianist.

At the business meeting which followed members agreed to furnish four or five volunteers each day during the month of January to assist with the March of Dimes campaign, and also plan a "House Tour" in the spring for philanthropic purposes.

MRS. EDWARD SCOTT RAY

BOOK ANNOUNCEMENTS

Practice of Allergy. By WARREN T. VAUGHAN, M.D., Richmond, Virginia. Revised by J. HARVEY BLACK, M.D., Dallas, Texas. Second Edition. St. Louis, The C. V. Mosby Company. 1948. 1132 pages. 333 illustrations. Cloth. Price $15.00.

This excellently rewritten second edition, like the first, has been designed as a reference textbook for the allergist. New developments in the field of allergy during the past decade have made revision necessary. The work of revision interrupted by the untimely death of the original author was done by Dr. J. Harvey Black, a practicing allergist and pioneer. The book follows the same plan of presentation as the first edition and much of it is unchanged.

Major additions and revisions are: the concept of the "blocking antibody"; the present status of the histamine theory; the status of the newly discovered histamine antagonists; recent studies on vital capacity; revised and modified trial diets useful in food allergy; complete pollen information brought up to date by O. C. Durham, the authority on the subject; information on fungus infection with associated allergy; sensitizing abilities of the newer antibiotics.

As stated in the beginning, this is an excellent book. The publishers have used good paper and print and have bound it well. The illustrations are plentiful and useful. The bibliography covering 37 pages is complete and is appended at the end of the text. Foot-note references are omitted except in those instances where no information available in printed literature exists and then the source is listed as "Personal Communication".

No book is more suitable for daily use by the physician interested in treating allergic diseases. Enough attention is given in the descriptive chapters on testing, preparation of extracts, methods of hyposensitization, etc. to allow each phase to remain uncomplicated and to be understood. The reviewer commends it to both clinicians and scientists. The student of allergy will find in it much to satisfy an inquisitive mind. It cannot be recommended to anyone who wishes a hasty review.

This book because of its great detail, rather than in spite of it, makes it a valuable reference which will be found in every allergist's library and should be in every medical library.

L. I. Fox

EDITORIAL

The St. Louis Meeting of the American Medical Association

THE second interim session of the American Medical Association will go down in history as the $3,500,000 session. The House of Delegates unanimously voted to levy an extra assessment of $25.00 on the 140,000 members of the Association. The reason for this assessment is given in detail in an editorial in this issue by Dr. George Lull. The most frequent comment that we have heard is why was it not done sooner.

Many large business corporations such as the telephone company have kept up national advertisement even after they had no longer anything to sell. They found it good business to keep in the good graces of the public. American medicine has grown to be a multi-billion dollar business and should take some lessons from big business. We need the goodwill of the public just as much (or even more) than a telephone company who can not supply a would-be customer.

While the House of Delegates got all the lime light, the Scientific Assembly was very well worth while. It consisted of general lectures by well known authorities and of clinical presentations. The general lectures were held in the Municipal Auditorium. The clinical lectures were held in rooms partitioned off from the Exhibit Hall. The only criticism we have of the session is that these rooms were not made large enough. Most of the rooms were filled to capacity and many doctors were turned away.

Motion pictures were very popular but the television program attracted the most attention. This was a joint project of the Deans of the St. Louis University School of Medicine and the Washington University School of Medicine, sponsored by E. R. Squibb and Sons. The operative clinics and medical conferences were transferred from Firman Deslodge Hospital, St. Mary's Hospital and the Barnes Hospital to two large screens and a number of small ones in the Scientific Section of the Auditorium. About each screen were constantly as many as could have been accommodated in the clinics in the hospital. The various groups were seated and were comfortable and could hear and see perfectly.

The exhibits both scientific and commercial were of high quality. We were particularly struck with the debunking character of a number of them. There was an exhibit of the autonomic nervous system from the St. Louis University School of Medicine, that showed ganglion cells in the nerve root as well as in the ganglia—thus showing an even greater variation for what we consider normal structure of the autonomic nervous system. Another exhibit on the Wassermann reaction showed that as many as 42 diseases could give a false positive reaction. More disturbing still was the information that 30 per cent of the cases of untreated syphilis tend to become negative in several years, and that 10 to 20 per cent of cardio-vascular, osseous and late syphilis cases give a negative reaction—a good illustration of the necessity of tempering laboratory reports with clinical judgment. The Bureau of Investigation of the A. M. A. showed an excellent collection of apparatus used by quacks, from Perkins metallic tractors to radio endocrinators. The Library of the Washington University School of Medicine showed some of their wonderful collection of manuscripts and letters of William. Beaumont.

The Association's General Practitioner Award went to Dr. W. L. Pressly of our good neighbor state, South Carolina. The presentation was made by Dr. Andrew C. Ivy who had made the preliminary investigation of German medical war crimes. Dr. Ivy stated that the system of state medicine in Germany was in part the cause of the deterioration in the quality of German medicine and of the medical atrocities.

It is to be regretted that so few Virginia doctors attended this meeting. Those who registered were: J. Morrison Hutcheson, Richmond; H. B. Mulholland, Charlottesville; Walter B. Martin, Norfolk; J. A. B. Lowry, Crewe, and M. P. Rucker, Richmond.

Medical Care

IN the current discussions upon medical care for all the people, we should clearly understand what is meant by medical care. In the first place, medical care may be administered by the private physician, surgeon or dentist, or by some foundation that is interested in a particular disease, such as The Infantile Paralysis Foundation, by a clinic (either private or public) or by the public health authorities (local, state or federal.) There are two aspects of all medical care, curative and preventive, but the proportion of these two aspects varies with the different fields of practice. If we arrange these fields like colors of a spectrum according to the proportion of preventive and curative care, they would be listed about as follows: to the left at the red end of the spectrum would be inspection of food; at the violet end would be the treatment of acute non-infectious diseases; in between we have milk inspection, public water supply, quarantine, malarial control, examination of school children, immunization, tuberculosis, venereal diseases, rheumatic fever, routine health examination, the care of the indigent, maternal and infant care, cancer, chronic diseases, and diabetes.

By its very nature the inspection of meat belongs to public health authorities 100 per cent. They alone have the necessary police power to make it effective. Whether it be done by the federal authorities or the local authorities depends upon whether or not the meat is shipped across a state line. The federal and local authorities are so well coordinated that this question is chiefly a matter of executive interest. What has been said of meat inspection is true of milk inspection. Public water supply belongs in the same category. The establishment of quarantine is a matter in which a private physician has no interest other than reporting of the infectious disease. Malarial control depends on the eradication of the mosquito which in turn is a definite sanitary engineering matter. Immunology is definitely a matter of preventive medicine. In actual practice most of the vaccination against small pox, diphtheria and children's diseases is done by pediatricians or in well baby clinics. Most of the anti-tetanic serum is administered by surgeons. Most vaccination against typhoid fever is done by health officers or health nurses. Other prophylactic practices, such as the administration of sulfadiazine as a preventive against hemolytic streptococcic infection of the throat, are in the experimental stage.

Inspection of school children is done by the school doctor and the school nurse, chiefly because the examination is done in the school and is comparatively simple. For the same reason industrial hygiene and minor accidents are the province of the plant physician. On the other hand, routine physical examinations are usually made by private physicians because the examination is more complicated, involving as it does pelvic examinations, urinalyses, and frequently cardiograms or x-ray examinations. Maternal and infant care is beginning to be looked upon as a public health field, principally because the average citizen does not think it worth what it costs.

The care of the tuberculous patient is a public health problem in so far as rendering the patient innocuous to others. The care of the patient belongs by right to the private physician. However, the cure takes so long and involves special hospitals, and for that reason the health authorities have taken over the entire care of most cases. This has worked out very well as tuberculosis which used to rank first as a cause of death

now ranks seventh. The same situation pertains in regard to venereal diseases except that modern treatment has reduced the time of the cure tremendously. As a matter of national defense in World War II, the United States Public Health Service took over the treatment of venereal diseases, both in the armed forces and in the civilian population. Nevertheless, in 1946 according to the Dean of the Harvard School of Public Health, gonorrhea was the second of the ten leading causes of illness and syphilis was the third, with more than a third of a million reported cases.

Rheumatic fever has a dual interest for a different reason. Children and young adults will almost certainly have crippling heart disease if they have recurring attacks of the disease or hemolytic streptococcic sore throat. The disease is chronic and the treatment may require weeks or years. These patients must be protected against sore throat and recurrences. They are no health hazard to others but they must be educated and taught a useful trade within the capacity of their hearts in order that they may become useful citizens. For that reason in communities where rheumatic fever is prevalent the treatment is becoming to be looked upon as a community project.

The care of the indigent is distinctly the province of curative medicine, but the providing of the facilities to take care of these folk when they are sick is a community problem. The ideal way, of course, would be for the patient to have the privilege of selecting his own doctor and for the doctor and the hospital, when necessary, to be paid by pre-paid insurance, the local community paying the pre-payment plan for this service.

Non-infectious chronic diseases, especially mental diseases, present problems similar to the care of the indigent. Early recognition will save tremendously in money and lives. This is true of mental diseases to some extent, but it is especially true of cancer. Campaigns for the early detection of cancer may well be considered the province of public health.

There is at present a great clamor for the Federal Government to take over the private practice of medicine. The only excuse for this is the very human weakness of people wanting to get something for nothing. This failing is the chief cause for the failure of state curative medicine. When the state provides "free" treatment and in addition, furnishes a cash bonus for being sick, the temptation is too much for most of us. The result is that doctors become overburdened with malingerers and trivial cases and have little time for the seriously ill. Instead of a spirit of mutual trust and confidence between the patient and his doctor which is so necessary for the best results, there soon develops an atmosphere of suspicion and distrust. The patient thinks that the doctor is not interested in him and the doctor suspects the patient of malingering. If President Truman is as interested as Mr. Ewart says he is in preventing unnecessary deaths and promoting the health of the people, and not in the pay roll deduction for compulsory health insurance, there are many things he can do with the present available resources. He could see that local health units are established in every county. Tuberculosis still kills more young adults than any other disease. In 1946 there were 118,000 new cases in the United States, and 50,000 deaths. These cases and deaths can be prevented. Theoretically, venereal diseases can be cured within a week's time. The elimination of syphilis and gonorrhea would be an incalculable benefit to the health of the nation, since it would remove the second and the third commonest diseases. The late sequela of these diseases add considerably to the mortality of the nation. The Government has already entered these fields and rightly so—why not complete this work? Accidents are among the ten leading causes of death. A little education here might be in order.

Birth Certificates

Every doctor in the state has recently received copies of the new birth and death certificates and a copy of the pertinent laws. Along with these was an appeal from Miss Estelle Marks, State Registrar of Vital Statistics, that the certificates be filled in with black, unfading ink. She makes an especial plea that a ball-point pen be *not* used. If you stop to think what happens to these certificates you will realize the reasonableness of this request. The original certificate goes first to the local registrar. A copy is made (sometimes by photographic process) and the original is sent to the State Registrar of Vital Statistics. Here again a copy is made and this is sent to the U. S. Census office. The State Registrar sends a notice of the birth certificate to the parents. This original certificate is always available at the office of the State Registrar of Vital Statistics for a photostatic copy. To fulfill its full purpose this certificate must be photogenic.

SOCIETIES

Virginia State Board of Medical Examiners.

The following were granted license to practice in Virginia at the December meeting of the Board:

Dr. Arnold Albert, Washington, D. C.
Dr. Samuel Allen Alexander, Washington, D. C.
Dr. Theodore C. Andrew, Norton.
Dr. Lewis Hamilton Armentrout, Richlands.
Dr. Jesse James Bates, South Boston.
Dr. William Jacob Beard, Boone Mill.
Dr. John Harmon Beverage, Nashville, Tenn.
Dr. Edward Bernard Blum, Woodhaven, N. Y.
Dr. Stephen Miles Bouton, Jr., Lynchburg.
Dr. Ferdinand D. Bradford, Jr., Hampton.
Dr. Stuart Thomas Bray, Richmond.
Dr. Billy Booth Brinkley, Bristol, Tenn.
Dr. Andrew Kimmins Butler, Newport News.
Dr. C. Willard Camalier, Jr., Chevy Chase, Md.
Dr. Alejandro F. Castro, Washington, D. C.
Dr. John Benjamin Charlton, Reedville.
Dr. Claire A. Christman, Arlington.
Dr. Edmund Eugene Christman, Waynesboro.
Dr. John Laurence Clare, Danville.
Dr. Rufus Stanley Courtney, Nashville, Tenn.
Dr. John Austin Craig, Charlottesville.
Dr. Charles Joseph Devine, Jr., Norfolk.
Dr. Frederick Baker Devitt, Kecoughtan.
Dr. Richey Floyd Dodds, Lynchburg.
Dr. Harold Seymour Farfel, Philadelphia, Pa.
Dr. Priscilla Lowell Foote, Purcellville.
Dr. Franklin Daniel Freda, Newark, N. J.
Dr. Charles Henry Goodykoontz, Jr., Bishop.
Dr. George Emerson Gwinn, Catawba.
Dr. Joseph McMurray Hester, Richmond.
Dr. Charles Bullard Hooker, Roanoke.
Dr. Thomas L. Hoyt, Waynesboro.
Dr. Charles Brock Hughes, Jr., Wytheville.
Dr. William Wyse Huntress, Clifton Forge.
Dr. James Louis Keating, Falls Church.
Dr. John Winston King, Norfolk.
Dr. John Gregory Kroll, Charlottesville.
Dr. Mark Hummer Lepper, Alexandria.
Dr. Seymour Lifschutz, Alexandria.
Dr. Filas Jerome Little, Jr., Galax.
Dr. Lawrence W. Malin, Wytheville.
Dr. Robert Paul Meyers, Richmond.
Dr. Benedict Nagler, Framingham, Mass.
Dr. Keith Millner Oliver, Purcellville.
Dr. Charles W. Ordman, Washington, D. C.
Dr. William Hubert Orsinger, Lorton.
Dr. Woodbury Perkins, Charlottesville.
Dr. Francis Walthour Porro, Roanoke.
Dr. Henry Rappaport, Arlington.
Dr. Frank Walker Reynolds, Richmond.
Dr. William Lamar Roberson, Norfolk.
Dr. Paul Ward Robinett, Richmond.
Dr. Milton Bernard Rubin, Alexandria.
Dr. Hugo Anthony Sacchet, Clifton Forge.
Dr. John Marshall Saunders, Arlington.
Dr. James Rolland Sayers, Dahlgren.
Dr. Harold John Schupbach, Roanoke.
Dr. Stephen Joseph Sheehy, Jr., Arlington.
Dr. John C. Sherburne, Falls Church.
Dr. Bennie C. Slaughter, Baltimore, Md.
Dr. Ernest G. Smith, Jr., Charlottesville.
Dr. William Crenshaw Smith, Waynesboro.
Dr. Jennings Bryan Spinks, Galax.
Dr. William Leete Stone, III, Arlington.
Dr. Morris Silverman, Washington, D. C.
Dr. Julian George Suhrer, Jr., St. Charles.
Dr. Paul B. Toms, Martinsville.
Dr. Ulysses Samuel Wharton, Washington, D. C.
Dr. Charles Stanley White, Jr., Washington, D. C.
Dr. Forrest Prettyman White, Norfolk.
Dr. Virgil Blackstone Williams, Virginia Beach.

Alexandria Medical Society.

At the regular meeting of this society on December the 9th, Dr. Monroe Romansky, assistant professor of medicine at George Washington Univer-

sity School of Medicine, spoke on latest advances in antibiotics. His talk was of a practical nature and, since Dr. Romansky is one of the foremost authorities in the world on this subject, the society felt most fortunate in having him.

Dr. A. J. Mourot and Dr. Ben C. Jones are president and secretary respectively.

The Tazewell County Medical Society,

At its regular meeting on November 18 in North Tazewell, elected the following officers for 1949: President, Dr. George D. Vermilya of Richlands; vice-president, Dr. A. M. Tiernan of Jewell Ridge; and secretary-treasurer, Dr. Mary Elizabeth Johnston, Tazewell. The retiring secretary, Dr. W. R. Strader of Richlands reports that the Society has completed a most successful year under the presidency of Dr. H. A. Porter of Boissevain.

Warwick County Medical Society.

The following have been elected officers of this society for 1949: President, Dr. George S. Grier, III; vice-president, Dr. Fred N. Thompson; secretary-treasurer, Dr. C. W. Beaven. All are of Newport News.

At the January 11 meeting, Dr. Walter B. Martin of Norfolk was guest speaker, his subject being Present Status of Government Controlled Medicine.

Arlington County Medical Society.

At the regular meeting of this Society held on December 16th, the following officers for 1949 were elected: President, Dr. John Hazel; vice-president, Dr. Robert Hood; and secretary-treasurer, Dr. John B. Leary.

The Loudoun County Medical Society,

At its January meeting, named the following new officers: President, Dr. A. C. Echols; and secretary-treasurer, Dr. Priscilla L. Foote. Both are of Purcellville. This Society has quarterly meetings in January, April, July and October.

Albemarle County Medical Society.

New officers for this Society are President, Dr. R. Gregory Magruder; vice-president, Dr. McLemore Birdsong; and secretary-treasurer, Dr. Thomas S. Edwards.

Prince Edward Medical Society.

This county, one of the group forming the Fourth District Medical Society, has an independent unit of which Dr. F. R. Crawford of Farmville is president, and Dr. John A. Graziani, also of Farmville, is secretary.

NEWS

1949 Meeting, Medical Society of Virginia.

It was decided by the Council to hold the 102nd meeting of the Society at the Chamberlin Hotel, Old Point Comfort, Fort Monroe, and dates are to be October 9 to 12. To avoid overlapping of business and scientific sessions far as possible, the Council further decided to have its annual meeting on Sunday afternoon, the 9th, the House of Delegates that evening, and to start the scientific sessions on Monday morning.

Members should make reservations as promptly as possible.

To Head Department of Medicine At University.

Dr. William Parson, assistant professor of clinical medicine at Tulane Medical School, and head of Section II of the Department of Internal Medicine at the Ochsner Clinic, has been appointed professor of medicine and head of that department at the University of Virginia, and will assume his duties there July 1, 1949. He received his degree in medicine from the College of Physicians and Surgeons of Columbia University, New York, in 1937.

Dr. H. B. Mulholland, who has been acting head of the department of internal medicine, will continue as professor of internal medicine at the University.

Dr. Joseph E. Barrett,

State Commissioner of Mental Hygiene and Hospitals has been appointed a member of the advisory committee on mental hospital service of the U. S. Public Health Service. This committee, appointed by the Surgeon-General, serves as a consulting and advisory agency on mental hospital standards and functions.

News from Department of Health.

Effective October 1, Dr. Fred C. Heath, Health Officer of the Giles-Montgomery-Radford Health District, and Dr. Mildred Esther Scott, Health Officer of the Rockingham-Harrisonburg Health Department, left for Johns Hopkins School of Hygiene and Public Health. They will be absent from duty until approximately July 1, 1949. Dr. George E. Waters was appointed as Health Officer of the Rockingham-Harrisonburg Department, effective January 3.

Dr. J. A. Fields resigned as Health Officer of the Halifax Health District, effective November 1, 1948.

Dr. R. M. Wilson has been appointed Health Officer of the Henrico County Health Department, effective as of December 27.

Married.

Dr. Claude C. Coleman and Mrs. Constance Gooding Cardozo, both of Richmond, December 31.

Dr. Alexander F. Robertson and Mrs. Frances Quarles Agnew, both of Staunton, January 1.

Beds To Be Added At McGuire VA Hospital.

It is announced that one hundred beds will be added to McGuire Veterans' Administration Hospital, Richmond, in the near future, these being placed in wards already in use. This will bring to 1,100 the total number of beds in the hospital. The increase has been authorized because of the heavy demand for hospitalization by veterans in this area, but cannot become effective until additional personnel can be obtained.

Medical College of Virgina News.

Dr. Eugene A. Stead, Jr., Professor of Medicine in the School of Medicine at Duke University gave the second Lewis T. Stoneburner, III, lecture in internal medicine at the college on January 14. Dr. Stead's subject was "The Role of the Kidney in Edema of Congestive Heart Failure".

The lectureship is sponsored by members of the 45th General Hospital and was established by them last year as a memorial to Captain Stoneburner, an honor graduate in medicine at the College in the class of 1937, who was killed in the recent war.

The College has renovated, enlarged and named one of its buildings, the Brown-Sequard Research Laboratory, in honor of Charles Eduard Brown-Sequard, a professor in the College in 1854 and 1855.

Dr. Brown-Sequard engaged in extensive research in physiology. The building which bears his name will be used as a center of research at the college.

Three members of the administrative staff of the college have been promoted as follows: Carl Parrish has been promoted from administrator of St. Philip and Dooley Hospitals to assistant director of the Hospital Division of the College, succeeding Dr. Margaret DuBois. R. H. Crytzer, formerly administrative assistant of the Outpatient Department, has been named to replace Mr. Parrish as administrator of St. Philip and Dooley Hospitals. C. B. Sanders, who has been manager of the bookstore, has been named Director of Purchasing, replacing Bruce Clark.

Chest Physicians.

The Virginia Chapter of the American College of Chest Physicians will meet at the Richmond Veterans Administration Hospital on March 1st, from 10 A. M. to 4 P. M. All members of the Medical Society of Virginia are invited to attend.

Dr. Edwin S. Wysor,

Class of 1944, University of Virginia, Department of Medicine, is now located at Mechanicsville where he is associated with Dr. Claude Kelly in general practice.

Birth.

Dr. and Mrs. Robert E. Paine announce the birth of a daughter, Emily Anne, November 18, 1948, at Norfolk General Hospital. Emily Anne is granddaughter of Dr. Andrew D. Parson of Richlands, and the great granddaughter of Dr. John Gibson Davis of Roanoke.

American Heart Association.

Dr. John W. Ferree has been named Director of the Public Health Division of the American Heart Association. He will direct the development of public health programs for the American Heart Association and will assist local heart associations in expanding and maintaining effective cardiac services in communities throughout the United States. He will supervise the association's field staff now engaged in community organization and program development.

The formation of additional affiliated heart associations and the expansion of community services comprise an important objective of the American Heart Association's 1949 National Campaign, from February 7 to 28. A total of $5,000,000 is being sought for a three-way program of research, education and community service.

Mary Washington Hospital Staff.

Dr. P. J. Nutter has been installed as president of the Mary Washington Hospital Staff, Fredericksburg, succeeding Dr. John L. Smoot. Dr. Claude A. Nunnally is the new secretary-treasurer.

Correction.

In the December issue of the *Monthly*, under an item "Virginia Doctors Wintering in Florida", we should have stated that Dr. and Mrs. S. E. Massey (and not "T. H.") have gone to New Smyrna Beach.

Dr. Leroy S. Pearce,

Recently of Lynchburg, is now at the University of Virginia where he has a fellowship in Pathology. He will be there for at least a year.

Dr. F. T. Buchanan,

Formerly of Bristol, is now serving on the surgical house staff of the University Hospital, Charlottesville. He was discharged from the Army in July 1948, with the rank of Captain and in May 1948 married Miss Marjorie Ann Haas of Akron, Ohio. They are making their home at the University Garden Apartments, Charlottesville.

Postgraduate Course On Diabetes.

The Frank E. Bunts Educational Institute and Cleveland Clinic will present a continuation course for physicians, March 17, 18, and 19, entirely devoted to the diagnosis and management of diabetes and its complications. Drs. Henry T. Ricketts of Chicago, John S. L. Browne of Montreal, and H. L. C. Wilkerson of the U. S. Public Health Service will be the out-of-town guest speakers. Dr. E. Perry McCullagh is director of the course. In addition to the regular faculty of the Institute, several prominent Cleveland physicians will give lectures.

Inquiries regarding the complete program and registration can be addressed to the Director of Education, Frank E. Bunts Educational Institute, 2020 East Ninety-third Street, Cleveland 6, Ohio.

News from Department of Medicine, University of Virginia.

On December 16, the Phi Beta Pi Medical Fraternity, under its Annual Cancer Lectureship, presented as guest speaker Dr. John J. Bittner, of the Division of Cancer Biology, Physiology Department, University of Minnesota, who spoke to the faculty and student body on the subject, "The Genesis of Mammary Cancer in Mice".

As guest speaker in a series of Lectures on Psychiatry, Dr. Wendell Muncie of Baltimore spoke to the faculty and student body December 16, on the subject of "The Psychobiological Approach to Personality Disorders".

On January 10, under the auspices of the Postgraduate Program for House Officers, Dr. James Gamble of the School of Medicine of Harvard University gave a lecture entitled "Electrolytes".

Dr. Joseph E. Barrett, State Commissioner of Mental Hygiene and Hospitals, was guest speaker in the series of lectures on psychiatry, on January 11. His subject was "Opportunities in the State Hospital System".

On January 13, Dr. Frank Strickler of Roanoke, presented a lecture on the subject of "Strephosymbolia", as one in the series of Lectures on Psychiatry.

On January 17, Dr. C. L. Gemmill, Professor of Pharmacology, spoke at the Long Island College of Medicine on the subject: "Enzyme Inhibition in Pharmacology"..

The group of residents, who trained under Dr. Tiffany Johns Williams during his tenure as Professor of Obstetrics & Gynecology at the University of Virginia from 1931 to 1947, have established a lectureship fund in memory of Dr. Williams. The initial Tiffany Johns Williams Annual Memorial Lecture will be given at the University on the night of April 8, by Dr. Nicholson J. Eastman, Obstetrician-in-Chief, Johns Hopkins Hospital.

Orientation Course In Allergy.

The American Academy of Allergy, in cooperation with the University of Georgia, will sponsor an orientation course in allergy from March 7 through March 11, 1949, at the University Medical School in Augusta, Georgia. This course is under the direction of Dr. Leo H. Criep, assisted by other Fellows of the American Academy of Allergy, and a distinguished faculty. It is for internists and general practitioners, dermatologists, rhinologists and nose and throat men, and will be practical and directly applicable to the practice of most physicians doing general medicine.

Enrollment is open to anyone interested and the fee is fifty dollars. Applications and inquiries should be addressed to the Executive Office of the Academy, 208 East Wisconsin Avenue, Milwaukee 2, Wisconsin.

Dr. L. C. S. Haynes,

Formerly of Mount Jackson, has accepted a position on the staff of the Newton D. Baker Veterans Center at Martinsburg, West Virginia.

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OBITUARIES

Dr. Hack Urquhart Stephenson,

Prominent Richmond physician, died January 20th. He was a native of Southampton County and seventy-six years of age. Dr. Stephenson graduated from the Medical College of Virginia in 1895 and practiced in Toano until 1922. He was for twenty-five years a surgeon for the Chesapeake and Ohio Railroad, was a member of the county board of supervisors for four years, and chairman of the board of directors of the Eastern State Hospital for fourteen years. Dr. Stephenson had always taken an active part in political life of the state, serving as chairman of the Democratic party for James City County for a number of years and was a member the Virginia General Assembly from 1910 to 1914. He was a member of the Virginia State Board of Medical Examiners for thirty-eight years, having retired in 1946. Since 1922 he had been medical advisor for the Industrial Commission of Virginia with offices in Richmond. Dr. Stephenson had been an active member of the Medical Society of Virginia for fifty years, having served for a number of years as chairman of the Legislative Committee and at the time of his death was chairman of the Committee on Industrial Health. His wife, two daughters and two sons survive him.

Dr. William Douglas Macon,

Retired physician of Charlottesville, died December 30th. He was seventy-nine years of age and a graduate in medicine of the University of Virginia in 1897. For twenty years, Dr. Macon was a member of the medical faculty of the University, resigning to devote his entire time to the practice of medicine. For several years he served as health officer of Charlottesville. Dr. Macon had been a member of the Medical Society of Virginia for forty-eight years and at the last meeting was among those awarded the Fifty Year Club certificate and made a Life Member. His wife and a daughter survive him.

Dr. Hugh S. Cumming,

Surgeon General of the United States Public Health Service for sixteen years, died at his home in Washington on December 20th, having been ill for more than a year. He was born in Hampton in 1869 and received his medical degree from the University of Virginia in 1893. Dr. Cumming was appointed assistant surgeon-general in 1898 and was named surgeon-general in 1920, retiring from that position in 1936. In recognition of his work he was decorated by half a dozen governments in Europe and Latin America and was the recipient of several honorary degrees as well as other important distinctions. Dr. Cumming had been a member of the Medical Society of Virginia for fifty-two years and was among those named a member of the Fifty Year Club at the recent meeting. His wife and two children survive him.

Dr. Walter H. Janney.

The death of Dr. Janney occurred on January 3, 1949. The following memorial was adopted by the Alexandria Medical Society:

Since God in His Divine Providence has seen fit to remove, from our midst, Dr. W. H. Janney, The Alexandria Medical Society at a meeting January 13, 1949, hereby expresses its regrets.

RESOLVED: That in the death of Dr. W. H. Janney we have lost a faithful member of many years, a man true to the ideals of his profession, a friendly soul ever ready to serve—one of deep sympathy for those of limited means, and ever rendering service and counsel to those who called upon him.

RESOLVED: That a copy of this resolution be spread on the minutes of The Society, a copy to his family, a copy to *The Alexandria Gazette,* and a copy to the VIRGINIA MEDICAL MONTHLY.

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*Collins, E. N.: The Diagnosis and Treatment of Irritable Colon: Physiologic, Local, Irritative and Psychosomatic Factors, M. Clin. North America 32:398 (March) 1948.

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CONTENTS

Guest Editorial. E. M. Holmes, Jr., M.D., Richmond, Va.__ 105

Regional Ileitis: A Report of Two Cases With a Summary of the Literature. Webster P. Barnes, M.D., Richmond, Va. ---------- 107

Diagnosis and Treatment of Malignant Tumors of Ovary. Charles Bruce Morton, 2nd., M.D., Charlottesville, Va.__ 115

Relation of Food Allergy to Nutrition, Disease, and Behavior In Childhood. Basil B. Jones, M.D., Richmond, Va. __ 118

The Present Status of Para-Aminobenzoic Acid Therapy in Rocky Mountain Spotted Fever. C. Gibson Hooten, Jr., M.D., William S. Hooten, M.D., Lynchburg, Va., and Joe E. Mitchell, M.D., Atlanta, Ga. ---------- 121

Pregnancy Complicated by Primary Torsion of a Normal Fallopian Tube. C. L. Riley, M.D., F.A.C.S., Winchester, Va. ---------- 127

A Case of Anuria During Combined Sulfonamide Therapy. W. R. Chitwood, M.D., and Allen E. LeHew, M.D., Clifton Forge, Va. ---------- 128

Pulmonary Tularemia With Report of Two Cases. George B. Craddock, M.D., Lynchburg, Va., and R. Vincent Crowder, Jr., Charlottesville, Va. ---------- 130

Uniocular Hysterical Amaurosis. F. V. Gammage, M.D., F.I.C.S., Grundy, Va. ---------- 135

Continued on page 6.

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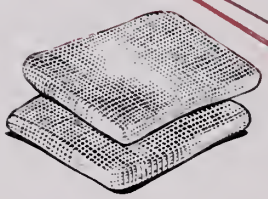

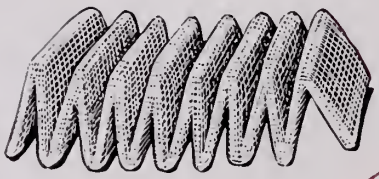

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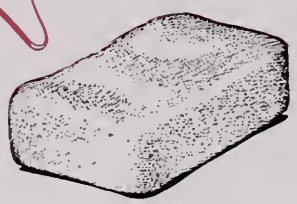

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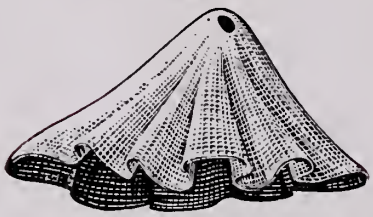

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GUEST EDITORIAL

The Problem of the False Positive Serologic Test for Syphilis

THE subject of false positive reactions in standard serologic tests for syphilis is of great importance to the practicing physician. For the patient or the individual whose blood is being tested, it is of paramount importance, as the diagnosis, and the physician's decision concerning treatment so often depends on the laboratory procedure. Because of the increasing sensitivity of serologic tests currently being used, and in consideration of the fact that the blood serologic tests are not specific for syphilis, it behooves the physician to know what conditions other than syphilis may produce false positive reactions.

False positive reactions fall into two main categories—the technical false positive, and the biological false positive. Both are of equal importance to the physician. In far too many instances the establishment of a diagnosis and the institution of therapy depend on the laboratory test report rather than on sound clinical evaluation.

Technical false positive reactions occur in serum containing no antibodies, and may be due to: 1. Technical errors in the collection and labelling of specimens; 2. The use of bacterially contaminated or hemolyzed specimens; 3. Errors in the performance of the serologic tests; 4. The use of faulty materials and reagents in the tests; 5. Errors in recording or reporting the results. Fortunately, such positive results are not usually confirmed when rechecked with a different test or when a second specimen is retested with the same procedure. In well regulated laboratories these technical errors are infrequent. Since this type of false positive reaction occasionally may occur even in the best of laboratories, no patient ever should be treated for syphilis on the basis of a *single, unconfirmed, positive blood serologic reaction.* The frequency of occurrence of these false positive reactions is usually directly proportional to the care exercised in the performance of the tests and the skill and experience of the individual performing them.

In the first laboratory evaluation study conducted by the Virginia State Health Department, thirty laboratories participated and only nine achieved satisfactory ratings in both sensitivity and specificity in one or more test procedures. Five laboratories had unsatisfactory ratings in both sensitivity and specificity. In this evaluation one laboratory achieved a specificity rating 33. Physicians who in good faith used the services of this laboratory would receive positive serologic reports on perfectly normal persons in a ratio of sixty-seven positive reports per one hundred specimens submitted. While the results of the study were discouraging to the Syphilis Committee of the State Medical Society and the Staff of the State Health Department they realized

that through evaluation studies private and public laboratories could be encouraged to improve their standards.

In the 1948 study sixty laboratories participated and all these achieved satisfactory ratings in specificity and sensitivity. These results are excellent and evidence great improvement in a period of eight years, however, as a significant number of laboratories performing serologic tests do not participate in these studies the physician should make inquiries to see if the laboratory of his choice is approved or not.

Biological false positive reactions are due to the presence of antibody-like substances or alterations in the globulin fractions of the serum. Dr. John H. Stokes of the University of Pennsylvania has enumerated about thirty conditions which render frequent, occasional or disputed biologically false positive serologic reactions. Further, investigations conducted at the Army Medical School by Dr. Charles R. Rein have disclosed still other diseases and conditions which may cause false positive serologic reactions. In fact, any metabolic disturbance of febril episode may at times influence the reliability of sero-diagnostic tests for syphilis. Placental transference of antibodies from the syphilitic mother's blood to the newborn infant often gives a temporary false positive serologic reaction. Approximately one in six infants born with positive serology do not have syphilis, and will have negative serology within six to twelve weeks.

The following diseases and conditions have been mentioned as causes of the false positive reaction: infectious mononucleosis, tuberculosis, jaundice, anesthesia, pregnancy and the common contagious diseases, i. e., measles and mumps, smallpox and other vaccina; acute febrile episodes, some forms of malignancies and certain virus infections. A few dermatological conditions, psoriasis, acne, lupus vulgaris and seborrheal eczema have caused false positive reactions. Among the less common conditions which cause such false positive reactions are trypanosomiasis, malaria, yaws, pinta, kala-azar, leprosy and relapsing fever.

In addition certain normal individuals who are not ill and who do not have syphilis give a non-specific reaction due to antibody-like substances or alterations in the globulin fractions of the serums.

From the above summary of the technical and the biological factors influencing standard serologic tests for syphilis, it is apparent that the chance of error in the test procedure while not great, is of sufficient significance to require caution in the interpretation of test reports. In the absence of a history of syphilis and/or clinical evidence of infection there is no urgency in prescribing treatment. True the patient may have syphilis in a latent phase of the disease, but, in fairness to the patient, obtain repeated serologic tests over a period of time, keeping in mind the fact that some of the disease processes and conditions that give biologic false reactions persist up to ninety days. In the absence of manifest clinical signs remember "There is no urgency in latency."

E. M. HOLMES, JR., M.D.,
Richmond Virginia.

EDITOR'S NOTE: Dr. Holmes is assistant director of public health of the City of Richmond.

REGIONAL ILEITIS: A REPORT OF TWO CASES WITH A SUMMARY OF THE LITERATURE*

WEBSTER P. BARNES, M.D.,
Richmond, Virginia.

My interest in the subject of regional ileitis dates back several years to my first case which I will report later. Since that time I have added another of identical nature. These two cases required resection of the terminal ileum, cecum, ascending colon and the right half of the transverse colon.

In a search of the literature to find the opinion of others on this subject, I was confronted with a multiplicity of names, many of which mean practically the same thing. A few of these are regional ileitis, regional enteritis, terminal ileitis, acute ulcerative ileitis, phlegmon of the ileum, non-specific ileocolitis, ulcerative ileocolitis, regional ulcerative enterocolitis, ileocecal pseudo tumor, chronic cicatrizing enteritis, ulcerous stenosing inflammation of the lower ileum, non-specific intestinal granuloma, and Crohn's disease. This list gives an idea of the various names describing different phases of the same pathology. The original name, terminal ileitis, as given by Crohn, Ginzburg and Oppenheimer,[1] when the disease was thought to be confined to the terminal ileum alone, is now obviously inaccurate and misleading, as are many of the other terms which limit the disease to the ileum or its lower segment. Most of the terms used were merely descriptive of the region of the bowel in which the disease process occurred and gave no adequate information as to the nature of the lesions. Probably the most accurate term and one which should be universally accepted is "non-specific inflammatory granuloma," specifying the region of the intestine involved, as it is both descriptive of the location and the pathological nature of the disease.

In a study of fifteen or more recent articles on the subject, I was impressed with the all inclusive work and review by Robert Shapiro[2] under the guidance of Ravden and Johnston. In summarizing the literature, he reviewed over two hundred and eighty articles, and correlated varying opinions on the subject. With some he frankly disagrees, and with others he agrees as to pathology, etiology, and indeed all phases of the subject.

*Read before the Richmond Academy of Medicine, February 17, 1948.

Anyone doing abdominal surgery is apt to have seen a number of cases of ileitis when operating for acute appendicitis, usually without any gross acute appendiceal pathology. Certainly, the vast majority of these cases go on to an uneventful convalescence and have no further trouble. Certain of these acute cases, however, do present themselves with a group of symptoms now regarded as fairly typical and of themselves suggestive diagnostically.

The literature shows that it is not a new subject, as the first gross, microscopic description was reported by Moore in 1882. It was next referred to in 1905 when Willmans reported a case of intestinal obstruction following a chronic inflammatory thickening of the ileocecal valve with resection and recovery. During the next few years a number of cases were reported by various authors, and there is little doubt that many of the early cases were classed as hyperplastic tuberculosis of the cecum and colon.

Its etiologic origin is unknown, but volumes of work have been written in attempting to assign a causative organism only to have such reports condemned by others. In 1914, Lawen, in his article on fibroplastic appendicitis, advanced the theory that these granulomatous growths were due to extraordinary forms of chronic appendicitis, and that the process began in the appendix and then spread to the cecum, ileum and ascending colon. He agreed with many of the early authors that these processes had been confused with hyperplastic intestinal tuberculosis and he classified the lesions into three main forms:

1. Inflammatory tumors of the cecum and adjacent colon not having their origin in the appendix.
2. (a) Inflammatory tumors which, to be sure, originate in the appendix, but only implicate this organ to a slight degree and extent by involving the anterior or posterior abdominal wall (after appendicitis and pericecal induration of the retroperitoneal tissues, etc.). (b) A form surrounding the intestine and omentum with the formation of dense adhe-

sions and with what he was pleased to describe as fibroplastic appendicitis.

3. Inflammatory tumors which originate in the appendix and which remain in the main localized in the appendix itself, cecum, ascending colon and terminal ileum.

In 1923 Moschcowitz and Walenski[3] published the first comprehensive survey in this country of non-specific intestinal granulomas. They emphasized the non-specific origin of the disease and also the presence of foreign body giant cells, and commented on the remarkable resemblance of some of the cases to hyperplastic tuberculosis of the intestines. After reviewing the literature on the latter subject, they concluded that this form of tuberculosis was rather uncommon, and that many cases of the so-called "hyperplastic tuberculosis of the colon" were in reality simple inflammatory processes.

In the ensuing years there were many reports in the literature on this subject. Horsley[4] in 1925 described a case of typical regional ileitis. However, it is to Crohn, Ginzburg and Oppenheimer, who in 1932 published their observations, that credit is due for arousing general interest in the subject.

ETIOLOGY.

Numerous authors have put forth different theories as to the causative factors involved in the production of this disease.

1. *Bacteria.* (a) Bacillus coli and Bacillus dysenteriae are the chief organisms mentioned, but there is no agreement that these are causative factors, even though it is well known that both can cause ulcerative lesions. (b) The tubercular bacilli have been mentioned, only to be ruled out as a causative agent; so have all other bacteria.

2. *Bacterial toxins* have been mentioned as a causative factor in which the toxins might enter through a break in the mucosa and thus produce a low grade inflammatory action characterized by sudden infiltration, etc. This, however, seems unlikely since similar lesions have not been encountered in other conditions in which mucosal ulceration is known to exist.

3. *Viruses.* There seems to be no evidence in support of this theory.

4. (a) *Protozoa,* notably the Endamoeba histolytica, has been considered by some as a possible cause, only to have this cause refuted because in cases of amoebic infestation the ascending colon and lower ileum are practically uninvolved. (b) The stenotic lesion of the hypertrophic polypoid growths, typical in advanced cases of regional ileitis, are not characteristic of amoebic infection. (c) Amoebic dysentery does not extend into the upper ileum.

5. The *Metazoa* have been mentioned. While there is considerable debate on this subject, yet it is generally agreed that this group of parasites can produce lesions greatly resembling regional ileitis, but they cannot be regarded as the usual causative agent due to the fact that repeated stool examinations in nearly all the cases of regional ileitis have failed to disclose the presence of the metazoal worms.

6. *Achylia gastrica* has been mentioned. However, it has been proven that a majority of the cases of regional ileitis have normal gastric juices.

7. *Allergy.* Kraemer[5] calls attention to the prominent enlargement of the mesenteric lymph nodes in regional ileitis and suggests that possibly the disease is primary in the lymph nodes with a secondary allergic spread to the intestine by way of the mesenteric lymphatics due to an overwhelming dose of infective agent.

8. *Foreign bodies.* These have been implicated many times as being causative of non-specific intestinal granuloma. While a foreign body may undoubtedly produce a non-specific inflammatory growth in the intestine, it is not the ordinary etiologic agent, since in the great majority of cases of regional ileitis, diligent search has failed to reveal the presence of foreign bodies.

9. *Trauma* has been mentioned as being productive of such a lesion. The absence of trauma, however, in most cases does not lend support to this view.

10. *Non-specific inflammation of the appendix.* It seems generally agreed that perhaps the appendix may sometimes play the role of an etiologic agent. Nevertheless, the finding in many cases of regional ileitis of an appendix grossly and microscopically normal would seem to preclude the implication of this organ as the usual primary seat of the pathological process.

11. *Impairment of the blood supply,* such as might be encountered following intestinal obstruction, recurrent partial volvulus, mesenteric thrombosis, hernial incarceration and intussusception. Any of the above factors can cause an ulceration in the

mucosa with secondary infection, connective tissue proliferation, and with ultimate stenosis of the lumen. Those who have seen cases caused by the above state that the pathology is quite analogous to that produced by regional ileitis. Others, however, by disturbing the blood supply to the bowel have failed to produce similar lesions.

12. *Interference with the lymphatic supply.* The theory has been offered by Bell[6] that the etiologic agent might be mucosal infection spreading to the wall of the intestine and producing edema of the mesentery due to insufficient lymphatic drainage, or that the infection began as lymphangitis and then involved the wall of the gut. Sclerosing materials have been injected into the lymphatic vessels and when injecting bacteria with these preparations, Reichert and Mathes[7] were able to produce edema and extreme thickening of the wall of the bowel, which changes were thought to be permanent.

13. *Heredity* has been mentioned. It has been conjectured that congenital predisposition or a transmissible etiologic factor played a part; however, in the light of the lack of evidence and corroboration by others, it is very likely that the finding of two cases in the same family was accidental.

Since all of these various etiologic factors may produce lesions which greatly resemble one another, one must, in the absence of further proof, think of the possibility of regional ileitis resulting from a number of heterogeneous, primary irritating agents.

SYMPTOMATOLOGY AND CLINICAL COURSE.

The symptoms, of course, vary with the location of the lesion and the stage of the disease encountered. Crohn, in his original paper, divided the symptoms into four groups:

1. *Signs of "acute surgical abdomen."* These patients exhibit the symptomatology of an acute intra-abdominal inflammation which cannot be distinguished preoperatively from acute appendicitis. There are pain and tenderness in the right lower quadrant if the lower ileum is involved; whereas, the pain is higher in the abdomen if the upper ileum or jejunum is involved. There are generalized colic with fever, at times up to 103 degrees, and a moderate leukocytosis. The mass is usually not palpable. At operation it is readily seen that the involved segment of intestine is soggy, edematous, reddened and greatly thickened. The mesentery of this portion of the bowel is also edematous and thickened and contains numerous large hyperplastic lymph nodes. There may be a small amount of clear fluid present in the abdominal cavity. The appendix often shows little, if any, sign of pathological involvement, but, if the lesion be confined to the terminal ileum, it may be reddened along with the cecum, or, in other words, its pathology then is that of the adjacent bowel. Occasionally the appendix is very seriously diseased, and, if drainage is necessary or an abscess is found, is prone to give rise to a fistula, such as happened in one of the cases I wish to report.

2. *Symptoms of ulcerative enteritis.* These patients have colicky pain with a low grade diarrhea, with stools containing mucus and blood, associated with marked weight loss and a secondary anemia. This anemia may at times become very severe and the patient's wasting very marked. One rarely sees the tenesmus and griping at stools with urgency which is fairly characteristic of colitis and rectal disease. Often these cases run a low grade fever.

3. *Symptoms of chronic, incomplete, intestinal obstruction.* The stage of ulceration is followed by a stenotic phase, and it appears from the literature that this phase may occur in a patient who has had the symptoms of the two milder stages and occasionally the first indication of the disease may be signs of incomplete, intestinal obstruction. This obstruction is due to extreme thickening of the wall of the intestine with resulting narrowing of its lumen, the chief symptoms being severe abdominal cramps, borborygmus and visible peristalsis. Pain at times seems relieved by defecation, only to return a short time later. There may be vomiting, which is usually intermittent in type and is not that of an impending obstruction. During this stage of the development, a mass is usually present in the lower right abdomen, and almost invariably so if the lower ileum is the site of the pathology. However, with upper ileum or jejunal involvement, the mass may be higher up, as mentioned above.

4. *Chronic fistula formation.* These fistulae occur late in the disease unless there has been earlier surgery, and are formed as a result of slow perforation of the ulcers. A peculiarity of these fistulae is that, in contra-distinction to fistulae of appendicular origin which tend to heal, they fail to close spontaneously and resist simple operative closure usually. They may be of a number of types, de-

pending upon the bowel which happens to be in close proximity to the diseased segment, and often become external through the incision after surgery. Indeed, a fistula appearing and persisting after an appendectomy for supposed acute appendicitis is almost diagnostic of ileitis. Perirectal abscess is also given as a frequent complication and is often one of the earliest manifestations of the disease.

5. *X-ray findings.* In the early acute case there may be no significant abnormal finding on x-ray, but as the disease progresses a fairly constant defect is noted in the affected loop of bowel. The degree of this filling defect, of course, depends upon the extent of the stenosis present. "The string sign," which is considered pathognomonic of an advanced case, represents a thinned out, barium filling of a greatly narrowed intestinal lumen. A failure to demonstrate this, however, does not exclude the condition, as, of course, other stenosing processes also occur in the small bowel. The x-ray, however, connected with the story should lead one to the right diagnosis.

PATHOLOGICAL ANATOMY.

In its acute stage the disease shows in the affected portion a blotchy, soggy, edematous mass of greatly thickened and greatly reddened bowel. Its mesentery is also thickened and edematous and contains a number of large hyperplastic glands. The serosa presents a mottled red appearance and often there is found a small amount of serous fluid in the cavity. In the latest stages, the pathological changes having become more advanced, the diseased bowel presents the appearance of a thick, firm, rigid, unyielding tube not unlike a garden hose, with its mesentery greatly thickened. There is a marked tendency toward perforation which is combated by the formation of adhesions to the parietal peritoneum, omentum, or adjacent viscera. The diseased segment is very sharply demarcated from the normal intestine. The lumen of the bowel is greatly constricted and distorted, at times being almost obliterated, with the lumen above the obstruction becoming dilated as the obstruction becomes more complete. The mucosa is edematous and shows a series of ulcerations, and the serosa is thickened and fibrosed, and at times presents tubercle-like structures on its surface. It is these which have caused so much confusion and faulty diagnosis at the operating table, leading the surgeon to call the simple granulomatous lesions "hyperplastic tuberculosis of the intestines." Histologic sections, of course, confirm the gross thickening of the intestinal walls as indeed all the layers of the walls are involved in the process with varying amounts of fibrosis, the mucosa showing irregular ulcerations containing many neutrophils and foreign body giant cells.

DIFFERENTIAL DIAGNOSIS.

It is important that regional ileitis be differentiated at operation from a number of conditions which may mimic it, both in symptomatology and not infrequently in gross appearance.

1. *Neoplasm, sarcoma and carcinoma* of the intestine may simulate regional ileitis, so much so that the diagnosis of inoperable carcinoma has been made at the operating table in numerous instances of regional ileitis, and the true condition has remained unrevealed until microscopic studies of the diseased bowel had been completed. Carcinoma of the jejunum and ileum is a very rare condition, however, and sarcoma of the intestine is equally rare, and rarer still does it cause a stricture. Biopsy of the regional lymph node for histologic study will aid in the diagnosis.

2. *Hyperplastic intestinal tuberculosis.* Intestinal tuberculosis in individuals with pulmonary tuberculosis is by no means uncommon and frequently occurs in patients with active pulmonary lesions. This type of intestinal tuberculosis is characterized by the presence of ulcerated lesions scattered throughout the jejunum and ileum, and to a lesser degree in the colon. These ulcers lie, more or less, in the transverse axis of the bowel, and the serosal tubercles on the external surface give one the means of identifying the lesions. Hyperplastic intestinal tuberculosis of the ileum alone is almost never seen. Final differentiation, however, may be made by guinea pig inoculation and by staining sections of the intestine for tubercle bacilli. In all instances of regional ileitis both of these procedures have consistently yielded negative results.

3. *Ulcerative colitis.* Diagnosis in this condition, of course, is usually readily recognized by roentgenological study in conjunction with opaque media and sigmoidoscopy; however, in those forms of colitis involving only the proximal wall of the colon in which there are no lesions of the sigmoid and rectum, differentiation is quite difficult. These cases

may be recognized by the spasm deformity of the portions of the colon involved and by obliteration of the haustra. The final diagnosis rests on a roentgenologic basis. In cases of regional ileitis with colonic involvement (as both my cases were) there is a slight diarrhea, high temperature, prostration and abdominal tenderness.

4. *Actinomycosis.* The intestinal form of this disease usually originates in the cecum and frequently results in the formation of a mass in the right lower quadrant. It is, of course, exceedingly rare. The diagnosis is made by finding "sulphur" granules in the discharge.

5. *Syphilis* is very rare in the intestine, but may occur both as a congenital and as a primary condition. The former lesions are found most often in the terminal ileum where the healing of syphilis ulceration produces constriction and stenosis. Primary syphilis of the intestine, however, has a predilection for the lower end of the colon and rectum and thus offers less of a diagnostic problem.

6. *Hodgkin's disease* may be differentiated from regional ileitis by histologic examination of a regional lymph node.

7. *Appendicitis in the acute stage* is impossible to differentiate from acute ileitis. An abnormally high fever and the presence of loose stools should serve to remind one of the possibility of ileitis.

8. *Other lesions,* such as mesenteric lymphadenitis, ovarian cyst with a twisted pedicle, postoperative adhesions, appendiceal abscess, Meckel's diverticulum with tumor, tubo-ovarian tumors, etc., may likewise confuse. Final differentiation again is on a roentgenological basis.

Statistical Studies.

Analysis of cases reported shows that it occurs in males slightly more than in females, and not in the ratio of 2 to 1 as Crohn originally reported.

Treatment.

The treatment depends on the stage of the disease and the condition of the patient. In the acute stage there is no agreement of opinion as to the surgical precedure of choice. Some observers recommend radical surgery in the acute stage (enterostomy, resection, short-circuiting) because of the frequently progressive character of the disease. On the other hand, the more recent tendency has, for the most part, been toward a conservative mode of therapy, i.e., an exploratory operation with no operation on the intestine *per se.* It has been my experience that practically all of the cases which we have observed in their acute phase have subsided entirely and have caused no further symptoms. I know of no way by which one can determine in a given acute case whether it is going to respond satisfactorily to conservative treatment or whether it will go on to the ulcerating, stenosing and luminal obliterating lesions. It would seem wise not to operate radically until the extent of the spread of the lesion has been determined, and then the resectioned level should extend well beyond the grossly diseased area. In the chronic stage of the disease, the patients show only wasting, low grade fever, anemia, varying degrees of abdominal discomfort, loss of weight, at times to an alarming degree, and appear very chronically ill. In this chronic stage, surgical treatment is undoubtedly the sole procedure to be recommended, at which time it is equally as important to excise the diseased portions of mesentery along with the bowel itself. Operations designed to short-circuit the diseased areas seem less satisfactory than those in which the diseased areas have been widely excised. Resection of the diseased portion of the intestine, however, has relieved all symptoms in 67.9 per cent of patients in whom this procedure was employed.

The literature is filled with cases of recurrence of symptoms after a too conservative resection in which portions of the diseased bowel have been left in place. Oppenheimer suggests dividing the ileum at least twelve inches above the disease which is both visible and palpable.

Case Reports.

Case I. J. F. K., age 14 years, was first seen by me in June, 1943, complaining that in the past 8 weeks he had lost his appetite and 26 pounds in weight, and he felt tired almost constantly. He had vague abdominal pains aggravated by taking food. His mother stated that normally he was very athletic.

His height was 5 ft. 4 in., weight 104 pounds. At times he had a temperature of 100 degrees. His tonsils were diseased. Blood examination revealed a hemoglobin of 74 per cent, red blood cells 4,500,000, white blood cells 11,700, polymorphonuclears 67 per cent, and eosinophils 2 per cent. Sedimentation rate 21. Blood Wassermann was negative. Urinalysis was negative. Stool examination was

negative except for a trace of blood. The State Laboratory reported blood cultures and agglutination tests negative; stool culture positive for Proteus morganii. Chest x-ray was negative.

Gastrointestinal x-ray was as follows: "Preliminary fluoroscopic examination of the chest does not reveal anything of clinical significance.

"Stomach is normal in size and shows no filling defect. Peristalsis is normal and the waves pass to the extreme pylorus without any interruption. The duodenal bulb fills well and appears entirely normal from both directions. The course of the duodenum is normal and the stomach empties at a moderate rate of speed.

"Five-hour examination. The stomach is empty. The structures, however, are not well identified.

"Twenty-four-hour examination: The colon is empty except for a few traces in the rectum and the lower sigmoid. The appendix is not seen.

"The films of the stomach verify the fluoroscopic impression, and nothing indicative of an organic lesion is seen in the stomach or duodenum. The five-hour film shows the transverse colon fairly well filled with marked prominence of the haustral segments. There are a few strands of barium occupying a normal position in the cecum and ascending colon. The appendix is not identified.

"Conclusion: There is no evidence of an organic lesion involving the stomach or small intestines. The failure of the cecum and ascending colon to be properly filled and to be identified, is highly significant. This should be checked by means of a barium enema, which was attempted, but could not be done because of the inability to insert the rectal tube. Advise proctoscopic examination, and if there is no mass interfering with the insertion of the rectal tube, a barium enema may then be done at a later date. The transverse colon appears markedly spastic and there is a hypermotility of the large bowel, which is often noted in tuberculosis of the cecum."

The patient left the hospital on July 3, 1943, and was put under the care of his family physician. After a trial at sulfa therapy, low residue diet, etc., his condition improved. Shortly after this his family physician entered the Armed Services and the patient was not heard from again until late October, 1943, when he returned complaining of being tired, cross and weak. He had entered school as usual but was unable to take part in athletics. During the past two or three weeks he had lost fifteen pounds, his appetite was very poor, and there was almost constant vague abdominal discomfort with occasional vomiting. His hemoglobin was 66 per cent and red blood count 3,930,000. In view of the previous x-ray report, it was not thought necessary to repeat that examination. The diagnosis was tuberculosis of cecum, or ileitis with cecal and ascending colon involvement.

Transfusions were given, and on November 3rd the diseased ileum, cecum, ascending colon and right half of the transverse colon were excised with an end-to-side, ileum to colon anastomosis. His convalescence was gratifyingly smooth. The specimen removed showed marked thickening of the last 12 to 14 inches of ileum, cecum and lower half of the ascending colon, the lumen being almost obliterated in places. The mesentery was studded with large glands.

Microscopic report by Dr. Frank L. Apperly was as follows: A very acute inflammation and necrosis of mucous membrane, a great thickening of the submucosa and subserosa with edema and subacute inflammatory cells. Diagnosis: Ileitis with marked involvement of cecum and ascending colon.

Since that time his health has been excellent and today he would be the apple of any football-line coach's eye.

Case II. Miss E. A., age 20 years, was first seen in May, 1945, when she came to the office for dressing of a sinus which had persisted for several months following appendectomy with drainage elsewhere. She stated that her doctor had told her she had the worst case of appendicitis that he had ever seen. After several weeks of dressing the sinus, it showed no tendency toward healing. We then began to wonder about the cause of the delay. Did we have a foreign body (fecal concretion) in the abdomen? Had the operator used a non-absorbing suture when removing the appendix? Or, were we dealing with a case of ileitis with fistula formation? I wrote the surgeon who had removed the appendix, asking him whether the appendix had ruptured and whether he had used non-absorbable suture material at operation. His reply stated only that hers was a very bad case of appendicitis and that he remembered nothing unusual about it.

A revised history gave us an additional clue to

the diagnosis, namely, that the illness had preceded appendectomy by four or five months, during which time she had had abdominal pain, griping, nausea, at times very marked, associated with a loss of appetite and a loss of twelve or fifteen pounds of weight.

On February 11, 1946, we explored the abdomen, finding that the fistulous tract had originated in the ileum about 3 inches above the cecum. The lower 8 or 10 inches of the ileum was much thickened and edematous, the serosa being covered by a heavy plastic exudate. The mesentery of this portion of the bowel contained many large lymph nodes. We were not prepared to do a resection of the bowel. The patient, her family, and the family physician had not been told of this possibility, nor did we feel that the patient was properly prepared for such surgery. After a hurried consultation among our staff we excised the fistulous tract and the wound healed by primary union and remained so. Her convalescence was uneventful.

She was put on a low residue diet, mineral oil, and antispasmodics. She regained her weight and felt well until after a series of social events which took her out of town during the late spring and early summer. She returned early in July, 1946, rather despondent, twenty-five pounds underweight, and with an aggravation of all her former symptoms. Her hemoglobin was 66 per cent, red blood count 4,900,000.

Gastrointestinal x-ray on July 10th was as follows: "General preliminary fluoroscopic observation of the chest does not reveal anything of clinical significance.

"Stomach is normal in size, and shows no filling defect. Peristalsis normal and the waves pass to the extreme pylorus without any interruption. The duodenal bulb fills well and appears entirely normal from both directions. The course of the duodenum is normal and the stomach empties at a moderate rate of speed.

"Six hour: Stomach is empty. The progress of the barium column is uncertain. There is a very stringy shadow occupying the region of the cecum, ascending colon, and hepatic flexure.

"Twenty-four hour: Small intestines empty. Patient has had four or five stools and the entire colon is empty. The barium enema is to be run in four days.

"Barium enema, July 15th: The barium flows without obstruction from the rectum to the cecum and into the terminal ileum for quite a distance. The left half of the transverse colon, descending colon, and sigmoid appear normal. The ascending colon is deformed and the cecum is practically obliterated. The terminal ileum, adjacent to the cecum for about two inches, is narrowed, but the ileum beyond this point appears approximately normal. A ruptured appendix has been removed.

"Conclusion: Patient has an organic lesion involving the terminal ileum, the cecum, ascending colon, and the right half of the transverse colon. The condition is considered to be a terminal ileitis which has extended upward to involve the colon as far as the middle of the transverse portion. Nothing of clinical significance is seen in the stomach or in the duodenum. There is no evidence of obstruction in the gastrointestinal tract."

On August 21, after a week's oral administration of amino acid and a transfusion of 500 cc. of whole blood, we explored the abdomen. We made a low right rectus incision and did a resection of the terminal twelve to fourteen inches of ileum, cecum, and ascending and right half of the transverse colon—all for regional ileitis. Several very large mesenteric nodes were noted. The end of the transverse colon was closed, using the interrupted sutures and fat tags sewn lightly over the end, following which the end of the ileum was anastomosed to the side of the transverse colon. The operative area was liberally dusted with sulfanilimide powder and the wound closed in the usual manner.

Postoperatively she received another 500 cc. of whole blood and 500 cc. of plasma. Her convalescence was remarkably smooth and she left the hospital on her 19th postoperative day.

The pathological report of the ileum and right colon was as follows:

"Gross examination of cecum and 8 to 10 inches of adjacent ileum and colon. The bowel is swollen and edematous with large lymph nodes in the mesentery. On opening there is a granular ulcerated appearance in the cecum with a red edematous colon. Microscopic examination: Section from the intestine shows marked edema with hemorrhage separating the mucosal glands. There is also granulation tissue in the submucosa and wall. This is very marked, and there are scattered foci of round

cells with occasional foreign body giant cells. The lymph nodes show a subacute chronic lymphadenitis with again giant cells and mixed cell infiltration. Diagnosis: Subacute ileitis."

When last seen, the patient was entirely comfortable. The tendency toward liquid bowel movements had subsided. She was eating a regular diet and she weighed more than at any previous time.

CONCLUSION

These two cases are presented mainly because of their rarity, but partly because they illustrate rather extreme end-results of a rather common lesion, acute ileitis.

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England Under National Health Act.

Since the National Health Service Act has been in effect in England, doctors' offices are overcrowded by persons, "many of whom have little or nothing the matter, seeking medical advice," says the London correspondent in a recent issue of *The Journal of the American Medical Association.*

"What may happen if we have a winter epidemic of some kind is a nightmare for the physician," his foreign letter says, adding:

"The demands for drugs and apparatus is excessive. For the first three months of the service the national bill for eye testing and spectacles amounted to nearly $4,000,000, for drugs $7,600,000 and for dentists, including dentures, $4,900,000. These figures do not include the cost of treatment and appliances provided through the hospitals.

"An abuse of the Health Service has occurred, the extent of which cannot be stated because of the secrecy of the practice. A woman obtains a prescription from a doctor for which she has little if any need. Perhaps she shams illness. She takes the prescription to a pharmacist and trades the prescription for cosmetics or other things which he sells. The pharmacist has no difficulty in getting payment for the prescription, as he returns it with those that he has dispensed. Both score over this fraud. The woman obtains her cosmetics for nothing and the pharmacist probably makes an increased profit on this sale of cosmetics."

"A crowning bit of extravagance may be mentioned," the article continues. "Foreigners who come to this country are to be entitled to free medical attention at the public expense for the first two months."

How Old Are You?

Youth is not a time of life—it is a state of mind; it is a temper of the will, a quality of the imagination, a vigor of the emotions, a predominance of courage over timidity, of the appetite for adventure over love of ease.

Nobody grows old by merely living a number of years. People grow old only by deserting their ideals. Years wrinkle the skin, but to give up enthusiasm wrinkles the soul. Worry, doubt, self-distrust, fear and despair—these are the long, long years that bow the head and turn the growing spirit back to dust.

Whether seventy or sixteen, there is in every being's heart the love of wonder, the sweet amazement at the stars and the starlike things and thoughts, the undaunted challenge of events, the unfailing childlike appetite for what next, and the joy and the game of life.

—*Selected*

DIAGNOSIS AND TREATMENT OF MALIGNANT TUMORS OF OVARY*

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Historically, it may be pertinent and of some interest to recall to your attention the fact that the first ovariotomy in the world was performed in 1809 by Ephriam McDowell, a native of Virginia practicing in Danville, Kentucky. The patient, a Mrs. Crawford, survived and lived for more than thirty years afterward.

Although a complete discussion of malignant tumors of the ovary should probably be based on some sort of pathologic classification, I shall not venture now into that difficult and uncertain field. For our immediate purposes it will be sufficient to recognize that most malignant tumors of the ovary and parovarium are carcinomas, with rather rare instances of sarcoma. It seems desirable also to exclude from this discussion secondary and metastatic ovarian malignancies.

Primary malignant ovarian and parovarian tumors are serious for several reasons. They are often insidious in onset, frequently causing no symptoms until a late and sometimes hopeless stage. They often present great difficulties in differential diagnosis, being easily confused with other neoplasms, both benign and malignant, and with still other diseases than those of neoplastic origin. They are often difficult to treat, being sometimes so related to other structures that surgical removal is dangerous, or so constituted pathologically that they are unresponsive to radiotherapy. Finally, they are frequently unpredictable in their course and their prognosis is more often poor than not.

The difficulties of preoperative diagnosis are highlighted by the statistical fact that few malignant ovarian tumors are diagnosed preoperatively. The first requisite in diagnosis is to bear in mind the possibility. It is said (Curtis) that 15% of all ovarian tumors are malignant and in 50% of the cases they are bilateral.

DIAGNOSIS

From the standpoint of diagnosis, the bimanual, vagino-abdominal examination is by all odds the physician's most potent weapon. Because the symptoms of malignant ovarian tumors are so insidious and appear late or not at all patients must be encouraged to have pelvic examination periodically, regardless of symptoms, and to seek examination immediately if any regional symptoms make their appearance. As a corollary, the physician must form the habit of making pelvic examinations in all adult female patients and must familiarize himself with the important features of the examination. In case of inability to accurately outline the pelvic organs by bimanual examination, the patient should be referred to a gynecologist who must employ anesthesia if necessary to accomplish accurate examination and overcome the handicaps of obesity, tense musculature, a small introitus, hypersensitiveness, or any others.

It must be recognized that ovarian malignancy may first evidence itself by symptoms referred to other organs or regulations. Initial bladder or rectal symptoms are not uncommon. Abdominal enlargement due to ascites may be the first manifestation. Indigestion due to widespread peritoneal implants may be primary. A supraclavicular mass may appear early. It is very important to remember that any symptoms or signs may be misinterpreted in the face of a small and easily overlooked malignant ovarian tumor.

Any ovarian enlargement or asymmetry, regardless of the patient's age, but especially in women over forty, is an indication for additional pelvic examinations at two to four week intervals and immediate gynecologic consultation if enlargement persists or increases. Of course, many young women are found with follicular and corpus luteum cysts that can be removed from the shadow of suspicion by careful observation. Probably few greater surgical crimes are committed than the surgical removal of the benign ovary in young women. In most if not all other instances of ovarian enlargement operative exploration is indicated. The risk of operation in such cases is much less than the risk of waiting.

One must not lose sight of the fact that in addi-

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tion to bimanual pelvic examination there are certain special examinations that may be of great aid in diagnosis. No physician should be without the vaginal speculum, the proctoscope, and of course the facilities for urinalysis, blood-cell count and smear examination. The gynecologist and others trained in special fields may contribute to the diagnostic data, positively or negatively, by such procedures as cystoscopy, roentgenography, endocrine assays, peritoneoscopy and colposcopy. There is nothing, however, in the foreseeable future to change greatly the fact that most diagnoses must be confirmed finally at operation.

When the female patient consults the physician, a good history is indispensable. Change in menstrual habits, prepubertal and postmenopausal bleeding, vaginal discharges, change in urinary habits and other urinary tract symptoms, change in bowel habits, lower abdominal or pelvic pain or pressure sensations and abdominal enlargement should be specifically inquired into. Any or several of the symptoms referred to may be elicited though it should be stressed again that no abnormalities of sensation, function or form may have been noticed by the patient.

Signs of abnormality at the time of examination of the patient may be minimal or misleading, especially in early cases. Although a malignant tumor of the ovary is usually associated with demonstrable ovarian enlargement, the over-all enlargement may be slight and only increased firmness or nodularity discernible. An ovary that is abnormally firm or nodular or fixed in position should be considered suspicious. In this connection, one must consider confusion with uterine figroids, intraligamentous tumors, ectopic pregnancy, inflammatory masses, endometriomas and various masses extrinsic to the generative tract. The larger ovarian tumors are especially readily confused with uterine fibroids, the pregnant uterus, a full bladder, and hematocolpos.

As already mentioned, if bimanual pelvic examination is not satisfactorily accomplished, plans should be made for gynecologic consultation and the use of anesthesia may be necessary to accomplish satisfactory examination. The vaginal speculum always and the proctoscope frequently should be used in conjunction with bimanual examination. The various special diagnostic procedures already mentioned may be employed as diagnostic aids in appropriate instances.

In later cases and in the far advanced case, the signs are fairly evident and sometimes almost unmistakable. Large, nodular, fixed ovarian masses, widespread pelvic infiltration, masses in the abdomen and fluid in the abdomen, leave little doubt as to the diagnosis. In this connection, however, one must remember that the pelvis and the ovaries specifically may be involved metastatically by malignant tumors outside the generative tract. Endometriosis also may be readily confused with malignancy.

The foregoing factors are the important elements in arriving at a diagnosis, but, as already stated, few malignant tumors of the ovary are actually diagnosed preoperatively. Therefore, it is necessary to formulate some course of action that will prevent indiscriminate exploration but at the same time insure making the diagnosis at the earliest possible moment. The following principles are suggested:

1. Surgical exploration of the pelvis is usually necessary for conclusive diagnosis of malignant ovarian tumors.

2. Operation should be advised without delay in the case of all ovarian masses demonstrated bimanually in female infants and children prior to the onset of menstruation.

3. Limited observation, at two to four week intervals, rather than immediate operation, should be advised in young women with ovarian masses.

4. Observation must be abandoned and operation becomes necessary for diagnosis in young women with ovarian masses that persist or enlarge. In such cases, however, unless a malignant tumor is found at operation, the ovary should be and usually can be conserved.

5. Operation should be advised without delay in middle-aged or older women with ovarian masses.

TREATMENT

All malignant tumors of the ovary and parovarium should be extirpated completely if possible or to whatever degree may be surgically feasible. Many authorities recommend preoperative x-ray therapy and most recommend post-operative x-ray therapy. Endocrine therapy and radio-active isotopes have not yet been assigned a place.

Actually, preoperative x-ray therapy is seldom employed because so few malignant ovarian tumors

can be diagnosed prior to operation. Positive preoperative diagnosis usually means that the tumor has spread by extension or metastasis. Therefore, from the practical standpoint preoperative radiation therapy is seldom feasible.

The operation itself is important. As in the case of malignant disease anywhere in the body the initial operation offers the best and usually the only chance of curing the patient. Radical operations offer the patient the best chance. Both ovaries, the tubes, the entire uterus and the broad ligaments should be removed in a radical block dissection. Any less radical operative technique will subject the patient to greater chances of recurrence and death. Endocrine, sexual, and reproductive functions are less important than the threat to life implicit in the malignant tumor.

In cases in which complete and radical operations are not technically or otherwise practicable, even partial resection of the tumor may be beneficial. By this means radiotherapy may be facilitated, comfort of the patient may be improved, and life prolonged.

Radiotherapy by modern fractional deep x-ray techniques is applicable to those in whom surgical removal of the tumor has been impossible, partial or complete. Response to the therapy is not always predictable and it may vary from imperceptibility to the dramatically miraculous. It is probably worth at least tentative trial in all cases as soon as the patients have recovered from the immediate effects of the operation, usually within a period of from ten days to two weeks.

In the far advanced case the use of palliative measures should be mentioned. Withdrawal of abdominal fluid may be of great importance for the comfort of the patient. Sedatives and other symptomatic measures likewise should be employed as necessary.

While the prognosis of these tumors is generally poor, it can be improved by earlier diagnosis and better treatment. Women must be encouraged to seek periodic pelvic examination, regardless of symptoms and urged to demand immediate pelvic examination when any symptoms first appear. Physicians must perfect themselves in the technique of accurate pelvic examination. Surgeons must perfect their operative technique and roentgenologists their treatment. These methods leave much to be desired but must suffice until such time as a definitive cure for cancer is discovered.

Jaundice.

Jaundice is apparently increasing in importance as a disease which is seen by the general practitioner, says Albert M. Snell, M.D., of the Division of Medicine, the Mayo Clinic, Rochester, Minn.

Writing in the September 25 issue of *The Journal of the American Medical Association*, Dr. Snell points out that number of older persons affected by serious and fatal types of jaundice has increased in recent years and that the frequent use of pooled blood plasma and other blood products has been causative in many specific instances.

It is believed that persons who have recovered from jaundice of the infectious type may carry the disease in their blood and that blood from these persons is a source of infection for homologous serum jaundice. Homologous serum jaundice is the type transmitted in blood or blood products or by contaminated syringes and needles.

Four to 5 per cent of patients who receive pooled blood plasma may have this kind of jaundice within two to four months, Dr. Snell emphasizes. The incidence of the disease following blood transfusions is "definitely less," he points out.

Infectious jaundice, whether transmitted naturally or through blood or blood products, is thought to be caused by a virus. The onset of the disease is usually abrupt, with nausea, vomiting, and fever, according to the article. Relapses of patients with infectious jaundice are frequent and relatively severe, Dr. Snell observes.

RELATION OF FOOD ALLERGY TO NUTRITION, DISEASE, AND BEHAVIOR IN CHILDHOOD*

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The child must grow from a one cell organism to adult size in the course of a few short years. This growth is most active during the first two years and therefore proper building materials are necessary throughout those years if the infant is to develop and function properly.

Manufacturing, cooking, preserving, etc., often remove or destroy substances required for proper body development and may in some instances, e.g., bleached flour, add toxic factors. Recent experiments have shown that white bread will cause fits in dogs and other animals[1,2]. The obstetrician and pediatrician should know the essentials for proper nutrition and should prescribe as near an ideal diet as possible. They should also be able to recognize the early signs which indicate that some fault in the diet exists. Deficiencies of minerals, fats, proteins, vitamines, etc., produce changes in the structure and function of the body that can be recognized and which should be corrected before severe damage results. Certain foods which contain the essentials for proper nutrition form the basis of the child's diet. If the child gets these foods undestroyed by cooking, etc., and can and will eat them, proper nutrition is easily provided.

Unfortunately, many children react allergically to one or more of these so-called essential foods, and that food then becomes a liability rather than an asset. Failure to recognize an allergic reaction to an essential food means that the child not only suffers from the lack of the needed elements in that food because of poor assimilation, but suffers, too, because what he does absorb acts as a poison. I am sure I have seen scurvy, rickets and anemia produced by poor assimilation of essential food elements which were supplied by the foods to which the patient was allergic.

Cow's milk was intended by nature for the short time nourishment of the calf. It certainly was not designed to fit the human infant's stomach. Pediatricians must be well trained in the art of distorting cow's milk to make it acceptable to the infant deprived of his normal food, as a large percentage of babies now are forced to depend on cow's milk. Most infants get by fairly well with simple modifications, but others are not so fortunate. Symptoms such as colic, nausea, gas, diarrhea, constipation, etc., may occur, and some infants may be so uncomfortable they can sleep only from exhaustion. If to the symptoms of indigestion, additional signs, such as a stuffy nose, or a skin eruption, are added, the recognition of allergy becomes easier. If there is a real distinction between allergic reaction and chronic indigestion, it is difficult to tell where one leaves off and the other begins. It probably is fair to call repeated symptoms of disagreement allergic reaction and designate it one plus to four plus depending on the severity of the symptoms. Milk is the source of fat, most mineral salts, most of the protein, part of the carbohydrates, and a large percentage of the fat soluble and B group vitamins of the infant's diet. Imperfect assimilation of any of these essentials means impaired structure formation and abnormal function of the body. The infant so affected has a decreased ability to cope with infections and other dangers that come his way, and seems more subject to anxiety than the normal child. The picture becomes complete when to the failure of assimilation is added the true allergic reaction which may affect any of the organs or tissues of the body with a wide variety of symptoms.

What has been said about milk is true in degree for other important foods. Orange juice, for example, in recent years has become the chief source of vitamin C. Its virtues only are proclaimed in full page advertisements for all to see. Unfortunately, many persons, infants as well as adults, are allergic to orange juice. Those infants who have softening and flattening of the back of the skull, narrow arched finger nails, and high strung nerves, seem specially likely to be sensitive to orange juice. In sensitive individuals, orange juice may cause gasto-intestinal symptoms, such as nausea, colic, diarrhea, or constipation. There is often a slight

*Read at the Virginia Conference of Social Work, May 7, 1948.

eruption on the face, a crusting of the scalp, and quite often a roughness behind the ears. I have seen several cases of recurrent pyelitis which cleared permanently only after orange juice was eliminated. Recurrent colds and sinus infections often result from allergy to orange juice.

Fish liver oils are now considered highly important in infant feeding because of their A and D vitamin content. Certain amounts of these vitamins are essential to proper nutrition, but the tendency is to supply them in amounts larger than is really needed. A good many infants are allergic to fish liver oils and receive more harm than good from their use. Regurgitation, loss of appetite and disturbance of the bowel function occur frequently in such cases. The odor of fish liver oil is easily detected in the vomitus, and may be detected in the stool of the infant upset by its use. Frequent colds and a harsh brassy cough may be caused by sensitivity to fish liver oils and these can be cured only by eliminating the oil from the diet. Since vitamins A and D are needed by the infant, they should be supplied in such cases from other sources, which fortunately are available, than from fish liver oils.

Allergies to eggs, cereals, fruits, vegetables, meats, etc., are important. Some are easy to detect and others, especially reactions to cereals and products made from cereals, such as corn oil, corn syrups, corn sugars, etc., may be difficult to detect unless carefully sought for.

Symptoms from food allergies vary greatly in different individuals and may vary in the same individual depending on such factors as infection, fatigue, emotional upsets, age, added reactions to other substances, etc. Practically any organ or tissue of the body may bear the brunt of the reaction, but each individual seems to have his own peculiar way of reacting. *Patient A*, for example, may have nausea, abdominal pain, diarrhea, or constipation as his outstanding symptom. *Patient B* may develop a stuffy nose, may sneeze, rub his nose, cough and wheeze. *Patient C* may develop urticaria, any one of several types of eczema, itching of the skin, etc. *Patient D* may respond by becoming ill with a respiratory infection—for example, tonsillitis, bronchitis, and especially sinusitis. These illnesses may follow the ingestion of minute amounts of the offending substance; for example, the amount of milk in a slice of bread or cookie may precipitate symptoms in some cases if the child is highly allergic to milk and has been avoiding the offending food for a while. *Patient E* may have any of the symptoms listed above but is most likely to have constipation and cramps along with convulsions, which could be diagnosed as epilepsy. Abnormalities of behavior such as listlessness, easy fatigue, restlessness, over-activity, stammering, various types of nervousness and inattention often result from food allergy and can be relieved only when the offending foods are eliminated completely. The above list of symptoms is not complete, but is sufficient to reveal the importance of recognizing food allergies when they are present.

The physical examination of allergic patients often reveals a boggy nasal mucosa, a slight puffiness beneath the lower eyelids, enlargement of the tonsils and adenoids and of other lymphoid tissue of the pharynx. The lymph nodes in the neck and at the base of the skull often are found to be larger than normal. These children generally are mouth breathers and noisy, sweaty sleepers.

Diagnosing food allergies and discovering the offending food may be easy in some cases and quite difficult in others. Foods taken only occasionally are often easier to detect when they cause symptoms than are the foods consumed regularly. The history, taken with the possibility of food allergies in mind, and the physical examination may give clues that point to the cause of the trouble. Skin tests for foods are not nearly as accurate as such tests are for pollens and other inhalants and may fail to indicate the chief offender. The real test is by eliminating completely the food in question and later trying that food again. In other words, the proof of the pudding lies in both the eating and not eating. I may add, the results obtained are often dramatic.

SUMMARY

1. Allergy to foods occurs frequently, and the possible participation of allergy should not be ignored in the study of any case.
2. Tolerance to the offending food and the type of reaction vary from patient to patient and even in the same individual under different circumstances.
3. When the offending food happens to be highly important in the child's diet, body structure and function may suffer from failure of

assimilation of the necessary substances normally supplied by that food, as well as from the allergic reaction.

4. Elimination of the offending food and substitution of other sources of the necessary food elements and vitamins is the logical and only really effective treatment for this condition.

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1004 West Franklin Street

Examinations for Appointment In Navy Medical Corps.

Examinations for the selection of candidates for appointment to the grade of lieutenant (junior grade) in the Medical Corps of the Navy will be conducted at all Naval Hospitals in continental United States during the period April 4-8, 1949.

Graduates of approved medical schools in the United States or Canada who have completed intern training in accredited hospitals or who will complete such training within four months of the date of the examination, and who are physically and otherwise qualified, may be examined for appointment as lieutenant (junior grade) in the Navy Medical Corps. Candidates must be less than 32 years of age at the time of appointment.

Candidates will be required to appear before boards of medical examiners and supervisory Naval examining boards at the Naval Hospital nearest their place of residence to demonstrate their physical and professional qualifications for appointment. Following approval by the President of the United States and confirmation by the Senate, selected candidates will be issued appointment and orders assigning them to duty in a Naval medical facility for active Naval service.

As a result of the authorized additional compensation of $100.00 a month for medical officers, a lieutenant (junior grade) in the Navy Medical Corps receives pay and allowances totalling $5,011.00 a year if married, and $4,575.50 if without dependents.

Detailed information concerning the form and procedure of application may be obtained from the nearest Naval Officer Procurement office or from the Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C. (Attn: Code-3424).

Subacute Bacterial Endocarditis.

Penicillin controls subacute bacterial endocarditis, inflammation of the membrane which lines the heart, in approximately three fourths of patients, report two New York physicians in the November 6 issue of *The Journal of the American Medical Association.*

Subacute bacterial endocarditis usually attacks young persons between the ages of 20 and 30, and it is often preceded by rheumatic fever. Bacteria, attacking the lining of the heart, are usually those of the streptococcus group. Since the lining covers the valves of the heart as well as its inner walls, endocarditis frequently leaves scars which may cause narrowing of one or more valves of the heart or may interfere with their proper closing.

Until the discovery of the sulfa drugs, the disease was nearly always fatal. Treatment with sulfa drugs achieved a cure in about 5 per cent of patients.

The physicians—Albert C. Herring and William M. Davis, of the Medical Service, St. Luke's Hospital—say that they were able to control the infection in 13 of 18 patients treated with penicillin. A four-weeks course of treatment was given to most of the group.

THE PRESENT STATUS OF PARA-AMINOBENZOIC ACID THERAPY IN ROCKY MOUNTAIN SPOTTED FEVER*

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The purpose of this report is to present the *results* of the use of para-aminobenzoic acid (hereafter referred to as Paba) in the treatment of Rocky Mountain spotted fever. Therefore, no effort will be made to discuss in detail the incidence, diagnosis, prevention and supportive therapy. All of these topics have recently been discussed adequately in the literature, and shall only be considered briefly.

Rocky Mountain spotted fever was first thought to occur only in the area for which it is named, but it has since been reported from every section of the United States. Contrary to popular opinion, there is very little variation in the mortality rate in different localities, but there is a marked variation depending upon the age of the people infected. For patients under the age of forty, the mortality is about 12 per cent, whereas, for patients above that age, it is about 40 per cent.[1] The mortality rate for the entire country is approximately 25 per cent.

Usually a history of tick bite (70 per cent) within the previous week may be obtained. The patient usually complains of headache, general malaise, and abdominal pain, followed by chills and fever. Within two to six days, he develops an erythematous maculo-papular rash that begins on the extremities and soon spreads to involve the entire body. Other signs and symptoms that may be present include photophobia, meningismus, edema, splenomegaly, lethargy, delirium, and/or coma. The febrile period is usually two to three weeks, but may vary considerably. Laboratory studies are usually of little help in the immediate diagnosis of the disease. Agglutinations for Proteus OX19 are usually positive in dilutions above 1:80 and the specific complement, fixation test (National Institute of Health, Bethesda, Md.) is usually positive by the end of the second or third week.

*From the Medical Service of Emory University Hospital.

USE OF PABA

Paba was first suggested as a possible treatment for Rickettsial infections, when it was found that the sulfonamides had a detrimental effect on patients suffering from these diseases. Snyder, Maier, and Anderson[2] inoculated mice with murine typhus and administered Paba to part of the group. It was found that 80 per cent of the untreated mice died, whereas 80 per cent of those given Paba recovered. Hamilton, Platz, and Smadel[3] showed that this drug would inhibit the growth of the typhus Rickettsiae in chick embryos. Later, patients suffering with typhus[4] and with tsutsugamushi[5] fever were treated with Paba and were found to have a milder, shorter course with a much lower mortality.

In 1945, Anigstein and Bader[6] inoculated guinea pigs with Rocky Mountain spotted fever and found that 80 per cent of those treated with Paba survived, whereas all of the untreated animals died. Evidence given by these authors indicates that Paba acts by exerting a suppressive, rather than a destructive effect on the Rickettsiae, and this opinion seems to be borne out by clinical response. Little else is known as to the mode of action.

The first report in the literature of a case of Rocky Mountain spotted fever treated with Paba was by Rose, Duane, and Fischel[7] in December of 1945. They concluded that in this single case the administration of Paba was closely followed by a precipitous drop in temperature, and a rapid disappearance of signs and symptoms. A similar response has since been reported by several observers.

In 1946, Flinn and his colleagues[8] reported ten cases treated with Paba and stated that nine "responded dramatically." He found that the average number of days of fever in the treated patients was one week shorter than in those who had not received Paba and states that most of the treated patients showed dramatic clinical improvement shortly after

treatment began. There was one death and this occurred in a 67-year old man who refused admission until the eighth day of the disease. He had had a previous myocardial infarction and on admission had a blood urea nitrogen of 60 mg. per cent. He died in uremia and at autopsy the kidneys were found to be small, granular, and typical of long standing renal disease.

Greely[9] summarized the results of Paba therapy in children. His report included communications from T. E. Woodward on 13 cases treated with Paba and refers to 6 other cases reported elsewhere in this paper. He concludes that: "In all instances the children who have been treated with Paba and who have recovered, have had shorter milder courses. The rash disappears quickly, and the temperature falls to normal within 2 to 4 days." In Woodward's series, there was one death in a two-year old child in whom treatment was not started until the nineteenth day of the disease.

Eight cases were reported by Tichenor *et al*,[10] 5 by Ravenel,[11] 4 by James and Walker,[12] 3 by Peterson *et al*,[13] and 4 by other observers.[1,14,15,16] They all responded well to Paba except for one patient reported by Peterson and his colleagues. Briefly these authors mention that one of their patients had a fulminating illness, the patient dying 16 hours after admission on the fifth day of the disease.

Dosage and Toxicity

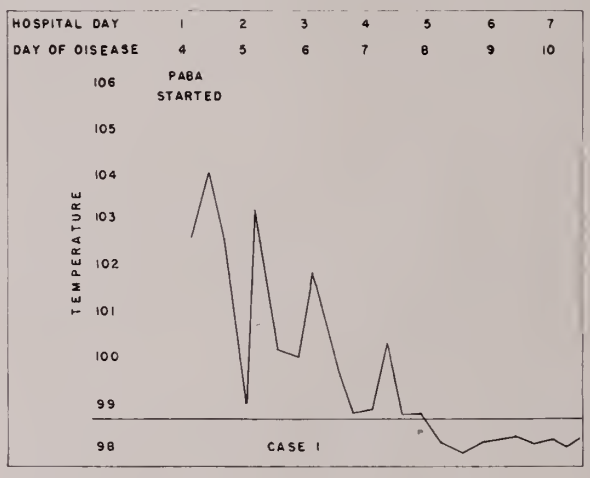
The amount of Paba required varies, but the blood level should be maintained between 20 and 60 mg. per cent. In adults, this level can usually be obtained by an initial dose of 8 grams and then 2 grams every two hours. The drug is rapidly excreted in the urine, making it necessary to give Paba on the two hour schedule. In children it is recommended that daily dosage be figured on 0.5 gram per pound of body weight and then divided into a two hour schedule. In comatose patients the tablets may be crushed and administered by stomach tube. Since the drug is a weak acid, equivalent amounts of sodium bicarbonate should be given at the same time. Tablets containing the sodium salts of Paba are now on the market and have been found satisfactory. Administration should be started as soon as possible since the effectiveness of the drug is markedly increased by its use early in the course of the disease. Its use should be continued for about three days after cessation of fever. The blood level should not be allowed to go over 80 mg. per cent.

Very few toxic effects have been found. Leucopenia and granulocytopenia may rarely occur and the drug should be discontinued if the white blood cell count falls below 3,000. Delirium has been reported, but disappeared when Paba was discontinued.

As in any severe febrile disease, supportive therapy is of the utmost importance. Fluid and electrolyte balance must be maintained and adequate protein and vitamin intake assured. Intravenous and/or gavage feedings may be necessary. Ravenel[11] recently discussed this subject adequately.

Report of Cases

Case 1.—History: A 23-year old woman entered Emory University Hospital on July 15, 1947, with a history of tick bite. Three days prior to admission, she noted general malaise, anorexia, myalgia, chills and high fever, and on the following day had developed a rash.



Physical Examination: Examination revealed a restless, dehydrated, cooperative but obviously ill, young woman with a generalized erythematous maculo-papular rash.

Course: Patient was given 6 grams of paba sodium immediately and subsequently received 3 grams every two hours. A high protein, high carbohydrate diet, vitamins, and a high fluid intake were given. Clinical improvement was noted the following day, and within three days the temperature had dropped to normal. Paba blood level was maintained at about 50 mg. per cent. Proteus OX19

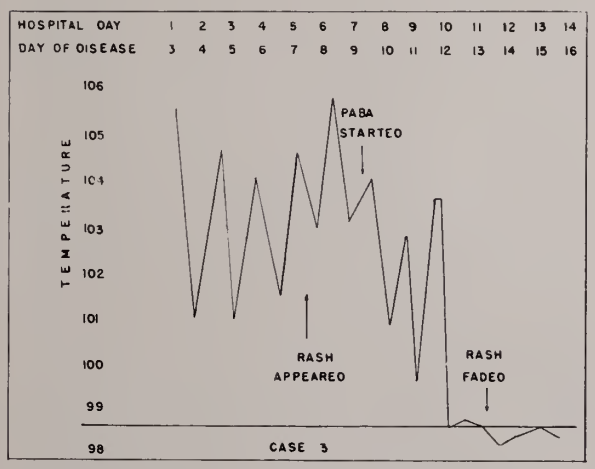
agglutinations were negative on admission, but positive 1:80 six days later. Complement fixation test for Rocky Mountain spotted fever changed from negative to positive 1:8 during these six days.

Case 2.—History: An eight year old girl entered Emory University Hospital on August 7, 1947, with a history of removal of ticks, epigastric pain with nausea and vomiting for seven days, fever and rash for six days. She had not responded to sulfadiazine and penicillin.

Physical Examination: Examination revealed a somnolent, but cooperative girl with typical hemorrhagic rash of Rocky Mountain spotted fever. Spleen was felt 2 cm. below the costal margin. Temperature was 105° F., pulse 130 per minute.

Course: Penicillin was continued and adequate fluid intake was maintained. The next morning she received 3 grams of paba sodium and 1 gram every two hours thereafter. Within three days her temperature returned to normal, and two days later the rash faded. Blood obtained on the second hospital day agglutinated Proteus OX19 in dilutions of 1:20 and on the seventh day was positive 1:1600,, while the specific complement fixation increased from 1:8 to 1:128 in the same period of time.

Case 3.—History: A 6-year old boy entered Grady Memorial Hospital on July 8, 1947, with a



history of tick bite. Headache, chills, and fever had been noted for 2 days and mental confusion for 1 day. Temperature was 105.5° F.

Physical Examination: Examination revealed a dehydrated boy with slight stiffness of neck, cloudy sensorium, and abdominal tenderness. White blood cell count was 5,800.

Course: Patient was given fluids, penicillin, and sulfadiazine after studies gave only normal reports. On the seventh day of illness, he developed an erythematous maculo-papular rash. During this time he had developed edema of the eyelids, wrists, and ankles, temperature had ranged between 101° to 105° F., and he had become irrational. Two days after the rash appeared he was given 6 grams of paba and thereafter received 2 grams every 2 hours. Within 3 days, the temperature dropped to normal and remained there. General condition was markedly improved and rash disappeared within 4 days. Paba blood level was 17 mg. per cent, so dosage was increased to 2.5 grams every 2 hours, producing a level of 23 mg. per cent. Patient's serum did not agglutinate Proteus OX19 on admission, but was positive in dilutions of 1:80 two weeks later. Complement fixation test for Rocky Mountain spotted fever was positive 1:4 one week after admission and 1:128 two weeks later.

Case 4.—History: a 34-year old woman entered Crawford W. Long Memorial Hospital on August 14, 1947, complaining of headache, fever, anorexia, and general malaise of 3 days' duration, nausea, vomiting and rash for one day. Sulfadiazine had been given, but no response was noted.

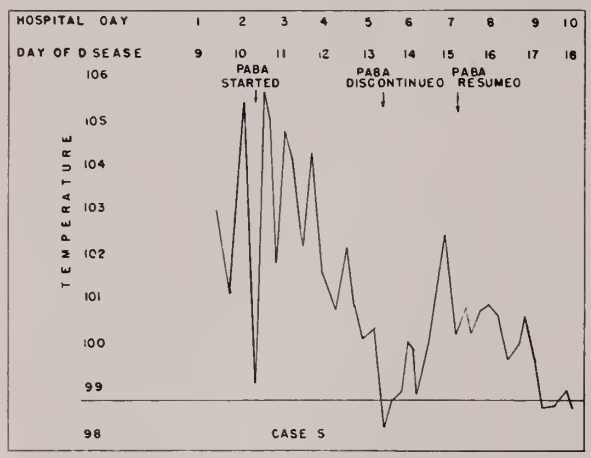
Physical Examination: Examination revealed a dehydrated, pale woman who appeared very ill. There was slight abdominal distention and a maculo-papular erythematous rash was noted over the extremities. White blood cell count was 4,080.

Course: Patient was given penicillin, vitamins, and oral and intravenous fluids. The rash spread to the body and the temperature remained at 102° to 103° F. Administration of paba, 3 grams every 4 hours, was begun 3 days after admission. Two days later the temperature fell to 100° F. where it remained for 4 days before returning to normal. Agglutinations for Proteus OX19 were negative on admission and on discharge, but the complement fixation test on blood drawn the day before discharge (fourteenth day of disease) was positive in dilutions of 1:128.

Case 5.—History: A 4-year old boy was admitted to Crawford W. Long Hospital on July 7, 1947, with a history of removal of ticks, epigastric pain with anorexia for nine days, photophobia, fever, and rash for eight days.

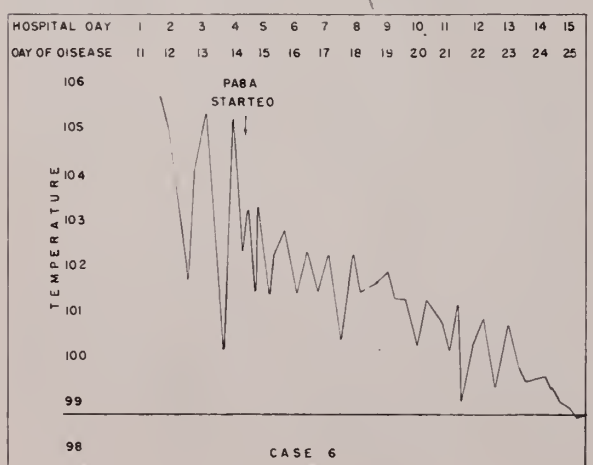
Physical Examination: Patient was conscious,

but was restless and dehydrated. He had a typical generalized hemorrhagic rash of Rocky Mountain spotted fever and a definite photophobia. Temperature was 103° F.



Course: Fluids were given parenterally and orally, and penicillin therapy was begun. The next day he was given an initial dose of 4 grams of paba sodium, and subsequently received 1 gram every hour. Temperature dropped rapidly to normal after three days of treatment, and paba was discontinued, since blood level at this time was 74 mg. per cent. The day after paba was discontinued the temperature began to rise, so paba therapy was resumed for four days, at which time the temperature had returned to normal. Proteus OX19 agglutination was negative on admission, but was positive 1:640 eight days later.

Case 6.—History: A 4-year old girl was admitted to The Henrietta Egleston Hospital for Children on June 18, 1947, with a history of tick removal. She had a sore throat, headache, and diarrhea twenty-four days before admission, but symptoms disappeared. Eleven days prior to admission she developed epigastric pain, diarrhea, and general malaise. The following day a high fever and rash were noted. She did not respond to penicillin and became comatose two days before admission.



Physical Examination: Patient was dehydrated and comatose and would not respond to stimuli. There was a generalized hemorrhagic maculo-papular rash. Rales were heard in the left lung base. Heart rate was rapid and rhythm was irregular. Spleen and liver were felt just below costal margins. Kernig test was positive bilaterally. Temperature was 105.8° F., white blood cell count was 29,100, and red blood cell count was 2,820,000. Lumbar puncture revealed normal spinal fluid pressure and a white blood cell count of 128. The serum protein level was 5 grams per 100 cc.

Course: Amigen, vitamins, transfusions, and 1/6 M Ringer lactate solution were given, and the next day she was able to take some fluids by mouth. Her condition remained about the same in spite of this therapy, and on the fourth hospital day she was placed on a regime of 1.5 grams of paba sodium every two hours. Penicillin therapy was begun because of evidence of pneumonia in left lung base. Temperature dropped to 101° F., and patient appeared somewhat better. Five days later it was noted that the patient was much more rational and general condition was greatly improved. Paba blood level was maintained between 24 and 55 mg. per cent. She continued to improve, and two weeks after admission she began to eat well and would respond to directions. Gradual clearing of sensorium was noted, but on discharge (one month after admission) there was some aphasia. When seen one month later she appeared in good physical condition, but parents stated that she still could not say a few words. On admission, agglutinations for Proteus OX19 were positive 1:5280, and two weeks later the compliment fixation test for Rock Mountain spotted fever was positive 1:512.

Case 7.—History: A 4-year old girl was admitted to the Henrietta Egleston Hospital for Children on June 30, 1947, with a history of tick removal. She had had epigastric pain, fever, and general malaise for six days and rash for four days. "Was talking out of her head" the day before admission.

Physical Examination: Examination revealed a slightly dehydrated, drowsy girl who appeared to be acutely ill. There was a generalized macular erythematous rash, most marked over the extremities, and moderate abdominal distention. Temperature was 105° F.

Treatment: Paba therapy, 2 grams every two hours, was begun immediately. The temperature dropped rapidly to normal within three days. However, the level of paba in the blood had risen rapidly to 250 mg. per cent, so the drug was discontinued at this time. Three days after paba was discontinued, the temperature rose to 103° F., but patient showed so much clinical improvement that paba was not resumed, and temperature soon returned to normal. In spite of high paba blood level, there was no leukopenia or granulocytopenia, although patient did have increased nausea and vomiting during that time. Proteus OX19 agglutination was negative on admission, but ten days later was positive 1:640. On discharge the complement fixation test for Rocky Mountain spotted fever was positive 1:128.

These case reports were of necessity made as brief as possible. Negative blood cultures, urinary findings, and other negative reports were not included. The white blood cell count usually ranged between 12,000 to 15,000. A slight normachromic anemia occasionally developed late in the disease. The rash referred to in these histories was characteristic, starting on the extremities and quickly spreading to the body, but in two cases it was first noted after it had become generalized. It was noted that the rash usually became very prominent when the temperature spiked to a high level, but would become faint during intervals when the temperature would fall.

It is interesting to note a few complications of therapy in these cases. In *Case 5,* paba was discontinued too early and had to be resumed when fever again occurred. In *Case 6,* treatment was not started until fifteen days after onset of disease, at which time the patient was comatose, and paba therapy was not as effective as in other cases. In *Case 7,* dosage was too large for a four-year old child, and paba blood level rose rapidly to a very high level, but the only toxic signs observed were nausea and vomiting. Supportive therapy in these cases is not discussed at length, but the part that it plays is of vital importance and must not be underestimated.

Five other cases will not be reported in detail since the information on them is not as complete. All five were adequately treated and four of them responded dramatically. In three of the cases, the temperature returned to normal within four days. The fifth case was a 34-year old man who died twelve days after onset of disease. Paba therapy was begun three days before death and an adequate blood level of the drug was maintained for at least the last two days. Agglutinations for OX19 were negative at this time, but since they are often negative until the end of the second or third week, and since he presented a typical clinical picture of Rocky Mountain spotted fever, we feel that his case should be included.

Thus, in our series of twelve cases, there was a mortality rate of 8 per cent. In the majority of these cases, the temperature returned to normal within four days after the initial dose of paba.

COMMENT

The 48 cases from the literature and the 12 cases just reported show an almost uniformly good response to paba treatment. There were 4 deaths: a 67-year old man with complications due to severe cardio-renal diseases, a 2-year old child started on paba 19 days after the onset of disease, a child who died 16 hours after admission, and a man who died within 3 days after therapy was begun. This gives a total of 4 deaths in 60 reported cases, a mortality rate of 6.7 per cent. However, it should be noted that cases reported from the literature may show a lower mortality rate than if all the cases were from a single large series. For example, the first reports on sulfonamide treatment of pneumococcal meningitis showed a mortality rate of only 31 per cent, but later reports from a series by Dowling *et al*[17] gave a mortality rate of 80 to 90 per cent. It was the opinion of these authors that the discrepancy was due to the fact that earlier reports obtained by summarizing the literature had included the many isolated cases, or small groups of 2 or 3, and that successfully treated cases had been published, whereas unsuccessful cases had not been reported in the literature. However, it does not seem that our report will be quite so open to criticism since all but eight of these cases are from groups

of four or more, and forty-three of them are from series of at least eight cases. In addition, it should be noted that in the cases that recovered, clinical improvement was generally evident in 24 to 48 hours after beginning paba therapy, and the duration of fever was about one week shorter than that reported previously. The uniformity of these results are very significant and are not as likely to be questioned.

Heretofore, most of the articles on paba therapy of Rocky Mountain spotted fever have presented only a small number of cases and have concluded that they obtained a very satisfactory response, but that the cases were too few to be conclusive. We feel that the evidence presented in these 60 cases strongly indicates that paba is now the drug of choice in the treatment of this disease.

SUMMARY

1. Twelve cases of Rocky Mountain spotted fever treated with paba are reported.

2. Forty-eight cases from the literature are summarized and paba therapy is discussed.

3. In these sixty cases there is a mortality rate of 6.7 per cent.

4. Clinical improvement was usually noted in 24 to 48 hours after beginning paba therapy, and the duration of fever is about one week shorter than in patients who did not receive the drug.

These case studies were made through the cooperation of the Henrietta Egleston, Crawford W. Long Memorial, Grady Memorial, and Emory University Hospitals and through the courtesy of the following physicians in submitting the case records of their patients for analysis: H. Homer Allen, G. A. Duncan, W. A. Mendenhall, and A. A. Weinstein.

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PREGNANCY COMPLICATED BY PRIMARY TORSION OF A NORMAL FALLOPIAN TUBE

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Winchester, Virginia.

Primary torsion of a normal Fallopian tube (not associated with pregnancy) has been reported by Martin A. Howard and Bland-Sutton. Darner and Anspach also have reported cases, the majority of which accompanied previous adnexal pathology; however, the literature indicates that primary torsion of a normal tube accompanying advanced pregnancy is an extremely rare entity.

In the case reported the diagnosis was not made before surgery, and, although an ovarian cyst with a twisted pedicle was considered, the absence of a palpable mass above and pelvic examination within normal limits did not lend support to this diagnosis.

CASE REPORT

W. F., age 24, was admitted to the Winchester Memorial Hospital because of pregnancy (7 months) complicated by pain in the right lower quadrant of the abdomen. The pregnancy had been normal and uneventful until thirty-six hours before admission when she began to have persistent pain in the right lower quadrant. The pain was described as being constant but of moderate severity until twelve hours prior to admission when it became quite acute and was not relieved by hypodermic medication when seen at that time by Dr. J. D. Brown. There were no symptoms suggesting premature separation of the placenta, renal complications, etc.

Physical examination at the time of admission revealed a well developed and well nourished white female, unable to lie quietly because of excruciating pain in the right lower quadrant of the abdomen. T. 99, P. 90, R. 20. Examination of the abdomen revealed a normal pregnancy of seven months duration, acute tenderness and spasm of the right lower quadrant of the abdomen and no induration or swelling. Other physical findings were within normal limits and pelvic examination was negative. B.P. 110/80.

Laboratory findings: RBC-3,640,000; WBC-11,050; Hbg. 72%; Polys-81; Lymphs-19; Eagle-negative.

Urinalysis—Amber, acid, 1.014, Hazy, albumin-trace, sugar-negative, 6-8 WBC per HPF.

Operation: Under spinal anethesia the abdomen was opened through a McBurney incision. The right Fallopian tube was found to be twisted, gangrenous, and distended with serosanguineous fluid. The ovary and appendix were grossly normal. Operation consisted of a right salpingectomy. The ovary and appendix were not disturbed. The patient made an uneventful recovery and was discharged from the hospital on the tenth post-operative day. She was delivered normally of a living child at term.

SUMMARY

Primary torsion of a normal Fallopian tube occurring during advanced pregnancy with accompanying alarming symptoms has been presented. Convalescence following removal of a gangrenous tube was uneventful and the patient progressed normally to term and delivered normally at that time. The appendix was not removed, as it was believed that a minimal amount of operative intervention would be less likely to precipitate a premature labor.

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212 West Boscawen Street.

A CASE OF ANURIA DURING COMBINED SULFONAMIDE THERAPY*

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and
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Numerous cases and series of cases[1,2,3,4] of renal complications due to sulfonamide crystalluria have been reported. This complication has been emphasized and re-emphasized as being a very serious one, often proving fatal. Nevertheless, it is felt that this group of drugs is still being used indiscriminately at times without the proper selection of cases and for the more minor ailments.

It is felt that the following case warranted the use of the sulfonamides, but from time to time such a case should be reported as a reminder that even with the use of the more soluble sulfonamides and their combinations, which are said to be even more soluble than when used alone,[5] varying degrees of oliguria and anuria can and do occur.

Serious reflection of the advantages and disadvantages of these drugs should be made each and every time they are used.

CASE REPORT

C. H. G., a 23 year old white male, was admitted to the hospital on September 16, 1947, with the chief complaint of "sore throat" of 48 hours duration. Complaint was limited to the left tonsillar region. He stated that he had been unable to chew or swallow food for 24 hours.

Physical examination revealed the temperature, pulse, and respiration to be 102°—110—21, respectively. Exquisite tenderness was present over the left side of the neck and mandible. The left anterior cervical lymph nodes were enlarged and tender. Both tonsils were enlarged, injected, and cryptic. The pharynx about the left tonsil appeared indurated and injected.

Laboratory studies revealed the urine to be normal, hemoglobin 94% (13.6 grams), w.b.c. 11,700, and the differential white count was 16 lymphocytes, 2 stab neutrophiles, and 82 segmented neutrophiles.

The patient was given sulfamerazine and sulfadiazine grains 30 each initially and grains 15 every four hours thereafter. 30,000 units of penicillin intramuscularly every three hours was also begun.

Therapy was begun at 5 P. M. September 16. The next morning the sulfa level was 7.35 mg. per cent. At about 6 A. M. September 18 (after 7 doses of the sulfonamides including the initial dose) the patient noticed that while urinating the stream suddenly ceased and exquisite pain developed in the penis and scrotum. A few drops of grossly bloody urine appeared.

A diagnosis of sulfonamide crystalluria was made. An intravenous infusion of 1,000 cc. of 3% sodium bicarbonate solution was given followed by 1,500 cc. of 5% glucose. Sodium bicarbonate grains 20 every four hours was also started. Morphine was given for pain.

That evening 1,000 cc. of 3% sodium bicarbonate solution was again given intravenously. The patient was cystoscoped and sulfonamide crystals could be seen extruding from both ureteral orifices. The ureters could not be catheterized because of the obstruction.

Intravenous infusions of glucose were continued as the patient was nauseated, vomited a great deal, and became drowsy. The blood urea-nitrogen was 14 mg. per cent, however.

On September 20, around 1:30 P. M., after about 55 hours of anuria, the patient voided and continued to void regularly until discharged. Nausea, vomiting, drowsiness, and pain subsided almost immediately after urination was again normal. The blood urea-nitrogen was 15 mg. per cent the morning of September 20. The sulfa level was not repeated.

An intravenous pyelogram being normal, the original complaints having subsided, the patient was discharged on September 25, 1947.

SUMMARY

1. A case is reported in which a patient on routine dosage of sulfadiazine and sulfamerazine developed anuria and became critically ill due to crystalluria.

2. It is felt that this is a good reminder that

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sulfonamide therapy can produce serious complications, and should, therefore, never be used indiscriminately..

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DOUGLAS, JOHN (d.1759): A Short Account of the State of Midwifery in London, Westminster, etc. London: Printed for and sold only by the Author in *Lad-Lane,* near *Guild-Hall* MDCCXXXVI.54 1.,75 (1) p. 18 cm.

——: A short dissertation on the Venereal Disease, London.

——: Lithotomia Douglassiana, *London*: *printed for C. Rivington,* 1723. 126 p. 22½ cm. (M.L.)

This little treatise on the State of Midwifery in London and Westminster by the Edinborough Lithotomist who practiced in London, gives a good insight into obstetric conditions at the time when the obstetric forceps first made their appearance. He objects to the term man-midwife and proposes the term mid-man for a male accoucher. He is emphatic in his statement that Chamberlen's translation of Mauriceau and the treatises of Gifford and Chapman are merely bids for opportunities to use their secret nostrums. As a remedy for the ignorance and incapacity of the midwives of which these authors complain, he proposes a hospital for poor lying-in women where young midwives can be taught by surgeons, and not by physicians, apothecaries and the lowest class of surgeons. Until such hospitals can be built and endorsed a midman should be appointed in every city, or county-town in England to instruct all midwomen.

There were many Douglas' who wrote on obstetrics and kindred subjects in the 18th Century. William Douglas attained notoriety as a critic of Smellie. Andrew Douglas wrote on rupture of the uterus, James Douglas, anatomist and man-midwife, after whom *Douglas' pouch* was named, was a brother of our author. *Another Douglas,* (John C.) wrote on *spontaneous evolution of the fetus* which was published in Dublin in 1819.

PULMONARY TULAREMIA WITH REPORT OF TWO CASES

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Tularemia is described as an infectious disease caused by the Bacterium Tularense. It is widespread in nature in a variety of animal and insect hosts, 20 of which are proved sources of human infection, though wild rabbits and hares are chiefly responsible for the disease in man. Blood-sucking insects—lice, flies, ticks, and fleas—transmit the infection from animal to animal in nature. Rabbits raised under domestic conditions have never been found naturally infected[1].

Four clinical types have been described[1]:

1. The *ulceroglandular* type—in which the primary lesion is a papule of the skin, which later becomes an ulcer and is accompanied by enlargement of the regional lymph glands.

2. *Oculoglandular* type—in which the primary site is a conjunctivitis, and is accompanied by enlargement of the regional lymph glands.

3. *Glandular* type—in which there is no primary lesion at the site of infection, but there is an enlargement of the regional lymph glands.

4. *Typhoid* type—in which there is no primary lesion and no regional glandular enlargement.

The *pulmonary* form, to which the main part of this paper is devoted, may occur with the other forms, such as the ulceroglandular or the typhoid forms.

The incubation period of tularemia is usually 3 days, and rarely exceeds 5 days. Although it is most often transmitted by skinning, cleaning, or eating improperly cooked rabbits, tick-borne infection is a definite source. Willard & Ruffin[2] report a tick-borne epidemic of 50 cases of tularemia among soldiers in the Tennessee maneuver area from March to December 1945. Of these cases, 32 were from tick bite, 5 from rabbit infection, and 13 from unknown sources, probably contact with tick Forty-nine of these patients recovered, one died Eleven of the 50 were of the pulmonary form; the one death was in this group.

The diagnosis of tularemia[2] is confirmed by 3 tests: one is by growth of the organism from the blood or pleural or spinal fluid or blood cysteine agar medium, the second by inoculation of guinea pigs with this material, and the third by repeated serum agglutination tests. The agglutination test is regarded as one of the most reliable confirmatory tests in the field of serology. It is usually positive after the first week; a progressive increase in the titer is diagnostic. Ransmeier and Ewing[3] have shown that a positive tularemic agglutination titer may persist for a number of years.

One of the most complete and interesting articles on pulmonary tularemia is that of Blackford and Casey[4] of the University of Virginia in 1941. After their review of the literature, it was their belief that the infection reaches the lung through the skin or intestinal tract and not through inhalation, as some believe. Blackford draws attention to the close morphological resemblance between caseous pneumonia of tularemia and tuberculous pneumonia. Pleural effusion and spontaneous pneumothrax may occur in either. The fundamental lesion in the lung in persons with tularemia is focal necrosis either in the substance of the lung or in the pleura. Around these areas of focal necrosis there are lymphocytes, plasma cells, and even polymorphonuclear leukocytes, and it is readily seen how these lesions resemble tubercles.

Blackford and Casey report 95 of tularemia, and of these pneumonia was found in 20 cases, pleural effusion in 13, and bronchitis in 19. The types of infections were grouped according to Francis' classification as follows: ulceroglandular—63 cases, typhoid—21 cases, glandular—7 cases, and oculoglandular—4 cases. Whereas most of the inoculations were accounted for by rabbits, a few apparently resulted from contact with ticks, squirrels, opossums, weasels, and cats. Ulcers or enlarged lymph nodes were the chief complaint of the majority of the patients, but the presenting symptoms covered a wide range. The mortality rate for the series was 10.5%, and 7 necropsies were obtained

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on the 10 fatal cases. Some type of x-ray abnormality was found in 90% of Blackford's group.

Prognosis: Before streptomycin, the overall mortality rate of tularemia was about 10%; with the pleuropulmonary form it was much higher. Bronchitis alone does not appear to increase the mortality over the cases in which no clinical evidence of bronchitis was found. Blackford had a 30% mortality in his patients with tularemic pneumonia or pleural effusion. Stewart and Pullen[11] of New Orleans had a mortality of 57% in 15 cases.

Before streptomycin, any treatment other than supportive treatment was of doubtful value. Sulfonamides were tried without success. Foshay's serum was used, but nothing definite was decided on its value. The report of his own cases is not convincing. Loria reported the use of intravenous acriflavine in 3 cases with recovery, and he attributed the recoveries to the drug.

W. W. Jackson of Hot Springs, Arkansas[12], gives Bismuth Sod. Tartrate in 2% aqueous solution (G. D. Searle & Co.) 1 cc. daily (IV) and compares his 203 cases with no mortality against the 13 reported cures with streptomycin at that time. However, in his only patient with tularemic pneumonia, it was necessary to use streptomycin in addition to the Bismuth Sod. Tartrate.

Since the discovery of streptomycin, all the other methods of treatment except the usual supportive treatment can be abandoned. This drug is described as "most effective in the treatment of tularemia" by Keefer[6]. He states that in 67 cases, 63 recovered, 55 immediately in a striking manner, 8 in a gradual but definite way with permanent cure. Three cases were unaffected, but in two the diagnosis was questionable, and the total dose was less than 3 Gm., and in all 3 the treatment was begun over 2 months after the onset of symptoms. Nearly every patient was treated with 1 gm. daily for 7 days. Eleven of the patients had pleural and pulmonary forms of tularemia. Nine recovered, 1 improved, and 1 died on the first day of treatment. The majority of cases had been treated previously with sulfonamides and penicillin. These results are confirmed by others[7,8,9,10].

Case Reports

CASE 1. G. L., colored female, age 13, was admitted to the Lynchburg General Hospital July 7, 1947, with complaint of fever and cough. She had been well until four days before admission, when she suddenly developed a severe headache; the next day nausea and vomiting appeared, and a rather severe, dry cough also set in. The following day (two days before admission) a fever was first noted and cold sensations, chilly sensations, were also noted. The cough became productive, but there was no hemoptysis. Patient received 3 or 4 injections of penicillin (amount ?) by her physician and, as she did not improve, was sent to the hospital.

Past history and family history were essentially negative. There was no history of skinning or eating rabbits or squirrels, and there was no history of tick bite, although ticks were abundant in the part of the country where she lived.

PHYSICAL EXAMINATION revealed an acutely ill, dehydrated, toxic negro child of 13. T. P. R. 104°—120—56. B. P. 100/40. There was no nuchal rigidity and no rash. *Pharynx* was slightly reddened. *Conjunctivae* were not injected. *Heart* was not enlarged, both heart sounds were heard, regular, rapid, no murmurs. *Lungs* showed dullness at left base and numerous crackling rales all over left side of chest, both anteriorly and posteriorly. Breath sounds were distant over left side of chest, but no bronchial breathing was heard. *Abdomen* was not distended. *Extremities* were normal.

LABORATORY STUDIES: *Urine*—amber, slightly cloudy, sp. gr. 1.020, acid in reaction, albumen trace, sugar negative, microscopic examination of the sediment revealed an occasional pus cell. *Blood*: RBC—4,150,000; WBC—9-700 Hbg. 9.2 gm. Differential—PMN 71%, SL 26%, LL 3%. Wassermann negative. Test for sickle cells—negative. *Sputum* on 2 examinations showed no tubercle bacilli. *X-ray examination* on July 10, 1947, showed "extensive soft-tissue clouding over the major portion of the left lung, which is a pneumonia, probably of a virus type. The right lung is normal." (Fig. 1.)

COURSE: Patient was given an intravenous infusion of 5% glucose in normal saline solution, and penicillin 50,000 units every 3 hours was begun. This was increased to 100,000 units every 3 hours on July 8, 1947. However, the patient failed to respond to this treatment; her temperature rose (see chart) and she remained ill. On July 10, 1947 streptomycin therapy was begun and agglutination test for tularemia was taken. It was reported positive on July 15, 1947, in dilution of 1-100, other agglutination tests were negative. The dosage of

Case 1—G.L.

streptomycin was 1.6 gm. daily (in 0.2 gm. q 3 h doses) and was continued until July 16, 1947, when the patient's temperature rose to 103.8° without any apparent cause. Even though the patient seemed to be doing well clinically, it was decided to raise the dosage to 3.2 gm. daily. This was continued until July 23, 1947, when the drug was discontinued.

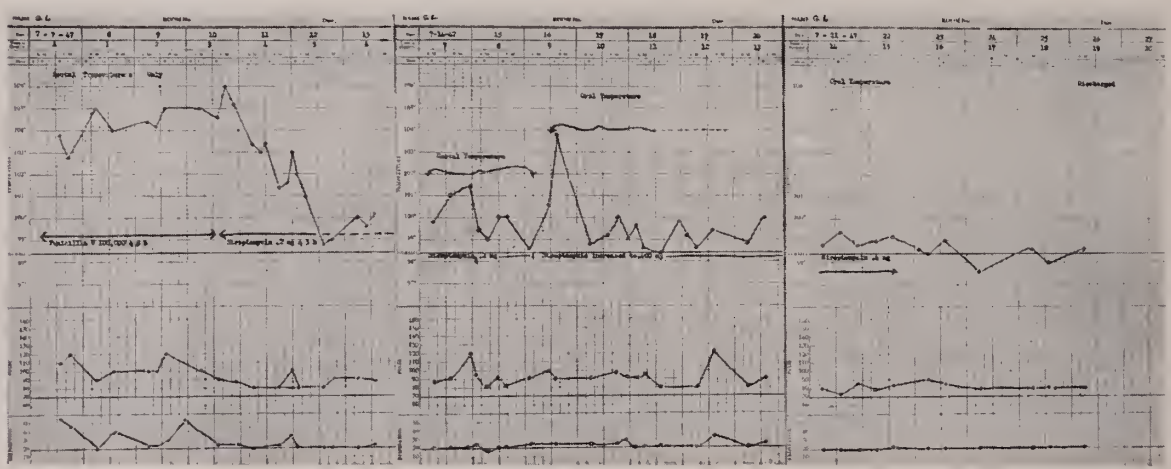

Chart 1—G.L.

The improvement of the patient under streptomycin therapy was as apparent as the temperature curve. She became alert, no longer appeared toxic, ate well, sat in a chair, etc. Her X-ray plate on July 14, 1947, showed "50% less clouding in the left lung", and on July 19, 1947, showed only "a small part of the original clouding remained". The blood agglutinations on July 22, 1947, were positive for tularemia in dilution 1-800. The patient remained afebrile after streptomycin was discontinued and was discharged home on July 26, 1947.

CASE 2. Mrs. A. C. A., was a 47 year old white woman who was referred to the Virginia Baptist Hospital from a neighboring town by her physician with complaint of pain in right side of chest. P. H. was negative except that the patient had had two admissions to mental institutions requiring shock treatments and 2 gynecological operations.

PRESENT ILLNESS began on October 12, 1947, one week before admission, with backache and pain down both legs, dull headache, fever and malaise. Two days later she developed a slight cough and "a catch" in the right side of chest on deep or moderate inspiration. There was no history of tick bite, eating or skinning or handling rabbits.

PHYSICAL EXAMINATION showed a well-nourished and developed white woman appearing acutely ill. B. P. 120/70. No petechiae and no skin rash. No nuchal rigidity. No jaundice. Pharynx and tonsils were reddened, but no exudate was seen. No lymphadenopathy. Chest and lungs showed an apparent catch with pain on breathing on right with diminished breath sounds and crackling rales at right base. *Heart* was not enlarged, both heart sounds

heard, regular, no murmurs. *Abdomen*: Two lower mid-line scars. No masses felt. *Pelvic* and *rectal* not done. *Extremities* showed no clubbing of the fingers.

LABORATORY STUDIES: October 20, 1947, *urine* (cath.) 1.015. Acid reaction, heavy cloud albumen, no sugar, no acetone. Microscopic showed many granular casts. *Sputum* (October 20, 1947) no acid-fast bacilli found. October 20, 1947, Hbg. 87%. RBC—4,410.00. WBC—10,300 with 81% Polys, 10% SL, 8% LL, 1% E. October 24, 1947—similar count—Hbg. 85%, RBC 4,570,000, WBC 10,000 with 79% Polys, 17% SL, 4% LL. X-ray on October 19, 1947, showed the right diaphragm 1 inch higher than normal and bronchovascular markings above it somewhat accentuated. Lung fields elsewhere normal, and heart size and shape were normal. Penicillin was begun on day of admission

Case 2—A.C.A.

—October 19, 1947—after a blood culture was taken, dose 100,000 units q 3 h.

October 21—High fever continued. Absent B. S. and flatness at right base.

October 23—High fever continued. Pain in chest worse. Agglutinations taken October 23, 1947—reported positive 1-50 on October 28, 1947.

October 24—Another chest x-ray with fluoroscopy shows right base obscured by extreme denseness to level of the hilum, which is probably fluid.

October 24—Right chest aspirated, 500 cc. straw-colored fluid removed. Culture taken—negative. Penicillin discontinued.

October 27—130 cc. straw-colored fluid removed —50,000 units penicillin inserted into chest cavity.

October 30—Agglutination report positive 1-50 Tularemia—recheck requested. Streptomycin 1.2 gm. daily begun. History of exposure re-checked—negative.

November 4—Clinical appearance much better as soon as streptomycin begun. Agglutination positive 1-200 at this time.

Streptomycin discontinued on November 5, and patient allowed out of bed. Discharged home on November 8, without any signs in chest.

I had believed this patient to have a tuberculous pleural effusion and did not think of tularemia until the agglutination test returned positive.

CONCLUSION: Two cases of pleuropulmonary tularemia are reported, both treated with streptomycin. It is believed that the drug saved the first patient, and while it was withheld until the second patient was improving spontaneously, it greatly hastened the recovery. It is urged that tularemia be suspected in all acute pulmonary conditions, and where the response to penicillin is neglible that agglutination tests be taken and streptomycin therapy be begun before agglutination tests can be reported.

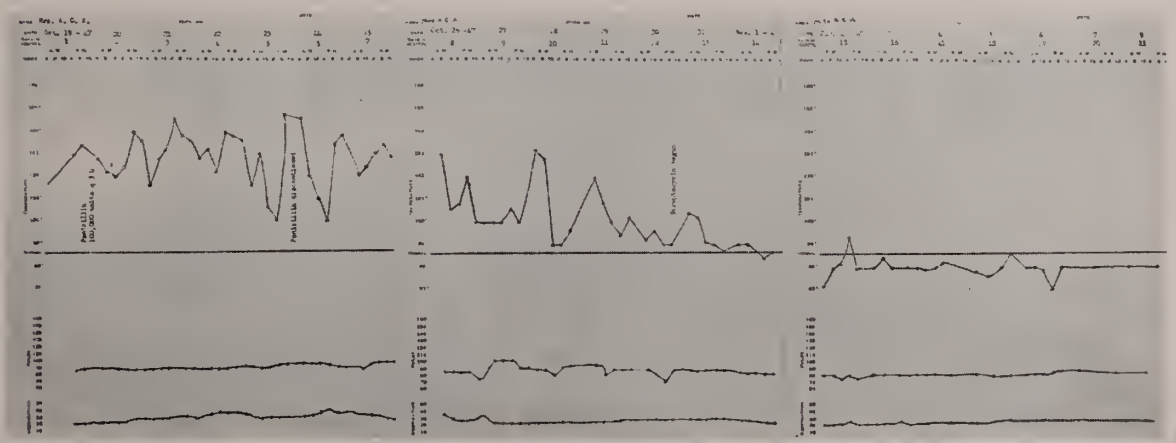

Chart 2—A.C.A.

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Floral Eponym

BRICKELLIA

BRICKELL, JOHN, FL. 18TH CENTURY

GRAY says Brickellia is named for Dr. John Brickell of Georgia, correspondent of Elliott and Muhlenberg. Norman Taylor in the Standard Cyclopedia of Horticulture says that Dr. John Brickell was an early American naturalist. Kelly complains of being able to find little biographical data about him stating that he died in 1810, aged about ninety.

There was a Dr. John Brickell of North Carolina. He is thought to have been an Irishman. He practiced medicine in Edenton, North Carolina, and in 1730-31 was one of a party of ten who with two Indian servants went on an exploring expedition to the West. They provided themselves with guns, ammunition, horses, compasses, rum, salt, pepper and corn. They were received with great friendliness by the Indians but stayed with them only two days as the savages were about to drink up all their rum. Proceeding Westward they crossed one ridge of mountains and came to another. They saw few Indians in this section. Brickell wrote two books, *Natural History of North Carolina,* 1737, and a *Catalogue of American Trees and Shrubs Which Will Endure the Climate of England,* 1739.

Brickellia is a genus of about 40 species of herbs or small shrubs found in the warmer parts of the United States and Mexico. B. grandiflora is commonly called the Tassel Flower.

UNIOCULAR HYSTERICAL AMAUROSIS

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Hysteria is the thief of medicine. It can steal the symptoms of any disease, symptom complex, syndrome or ailment and make them its own. Furthermore, it can so influence the metabolism of the part that sooner or later, if the process is allowed to continue, physical changes will take place that will substantiate the disease.

ETIOLOGY

The etiology of hysteria is protean. Usually an easily impressed girl with an unstable nervous system receives a shock of some sort, physical or psychic, an automobile accident, a death of a near relative, a disappointment, amorous or otherwise, from which the only exit is fight or flight. As she cannot either fight or fly, sublimation of the desire for flight takes place in the snapping of the constitutionally weakened vital threads and paralysis takes place, or blindness, anorexia, neurasthenia, psychasthenia, deafness, tachycardia, alexia, mutism, apraxia, or the whole long list of physical and mental ails to which the human frame is heir.

However, it is not only the female sex that is susceptible. It affects both sexes and all ages and will result from anything that gives rise to extreme emotional reaction. The late World War gave rise to innumerable cases in young men who were suddenly jerked out of the routine complacency of civilian life into the maelstrom of war with its media of mud, squalor, filth, obscenity, sickness, accident, sudden death and mass murder.

The element of compensation in accident cases increases the percentage of nervous affections, not the least of which is hysteria.

DIAGNOSIS

Diagnosis is difficult because of the complexity of diseases and injuries that hysteria can simulate. Malingering is especially confusing, although the malingerer is essentially an actor and in the case of simulated blindness the malingerer will pull his hat down over his eyes and put on smoked glasses, assume a cane for assistance in walking and his camouflage is complete, while the hysterical blind assumes no artificial postures, sees nothing and cares less, his hysterical phenomena being purely the result of inhibition. Hysteria does not always strike well persons. He may be suffering from any disease or multiple diseases and he must be examined carefully for evidence of real disease before the element of simulation is given consideration. There may be variations in the loss of sight from a slight loss of vision to unilateral or bilateral amblyopia or amaurosis, while there may be other conditions present, including conjunctivitis, asthenopia, ptosis, nystagmus, lacrimation, blepharospasm, strabismus, internal or external, unilateral or bilateral ophthalmoplegia.

FIELDS

The hysterical fields may assume any form. There may be no fields at all in complete blindness, contracted fields, hemianopsia, scotomas, tubular fields, oscillating fields where an object may appear and disappear haphazard in testing the same meridian, the reversal of color fields, dyschromatopsia or color amblyopia. Of these Peter[1] gives three especially characteristic types of changes: (1) concentric contraction of fields, with or without central amblyopia; (2) tubular fields; (3) reversal of color fields.

1. In concentric contraction there is a uniform narrowing of the field of vision with the color fields reducing proportionately. The field usually retains its circular shape and contraction may continue down to central vision. Large entering angles, central or annular scotomas are rarely found.

2. The tubular field occurs only in hysteria and malingering and is elicited by taking the fields on the tangent screen or campimeter, when, moving the patient back and forth will not alter the size of the field, which normally grows larger as the patient recedes from the screen.

3. Reversal of the color fields may take any form. The red field which normally is larger than the green, may be found within the green field. On the other hand, the red field may be greatly enlarged to enclose the blue field which ordinarily is the largest color field. This may be due either to a

hypersensitivity to red or a hyposensitivity to blue. Instead of reversal, there may be interlacing of the color fields.

The form and color changes in the visual fields may be comparable with hysterical anesthesia of the skin. Peter[1] draws this analogy because not only is hysterical amblyopia and amaurosis bilateral but may be unilateral in hemianesthesia of the body. Local areas of skin anesthesia may be represented in the retina in the form of scotomata. Muscular palsy, so frequently observed as hemiplegia, monoplegia, etc., occurs in the eye in external or internal, complete or partial, ophthalmoplegia. Paralysis of the sphincter muscles of the bladder, or tonic spasm of the sphincters, also find their analogues in the eye in ptosis, tonic blepharospasm, etc. Painful points, or hyperesthesia, of the skin, are similarly represented in the eye in photophobia, lacrimation, etc.

PATHOLOGY

Pathology is that branch of medicine which treats of the essential nature of disease.[1] There is no pathology in hysteria is an oft-repeated assertion that needs revision in the light of modern psychology and psychiatry, especially since the recent release of atomic energy. Einstein was the first to prove mathematically that energy and matter were synonymous. Therefore, while macroscopically and microscopically no pathological tissue changes are inherent in hysteria, nevertheless the thing that we call life is an integral part of the human economy and lies at the basis of all our mental, kinetic, vegetative and metabolic activities. Sudden death in an otherwise apparently healthy individual does not alter the essential living condition of every cell in the body until the secondary mortal changes set in. However, something very real has departed from the human body.

This entity we call life without which the body ceases to operate as an individual unit which we call man and remains nothing but a lump of clay. It is quite obvious therefore in the light of our new found atomic knowledge that there is a perfect analogy between the concept of the identity of matter and energy with that of the identity of the human body with life, since the human body is matter and life is energy.

This brings us to the point that the human mind whose mainspring is life is one and the same thing as the human body and cannot be separated from it. Succinctly it has been said that if a patient says that he is ill, he is ill, for no man, healthy in mind and body, would make such a statement. Therefore the hysteric is an ill person. There may be no evident pathology of the individual cells but there is definite pathology of the mind, and in many instances this may lead to more dire circumstances than manifest disease of the tissues. Von Graefe stated that hysterical amblyopia is due to an interruption of the connection of the optic nerve fibers with the outer retinal layers, while Peter[2] emphasizes the fact that no part of the visual pathway enjoys immunity in hysteria, and that any variation of the field observed in organic disease of the visual tract may be found in hysteric disease. Therefore, in the hysterical manifestations of amblyopia, amaurosis, central, peripheral, nasal step or annular scotoma, hemianopia, color field changes, etc., a careful examination must be made to exclude such pathological entities as syphilis, tuberculosis, malignancy, multiple sclerosis, tabes, diabetes, meningitis, nephritis, arteriosclerosis, etc. Hysteria cannot be brushed off as the non-existence of disease, but must be treated as a real mental disorder of psycho-pathologic origin.

THERAPY

"The successful treatment of hysteria demands qualities possessed by few physicians. The first element is a due appreciation of the nature of the disease on the part of the physician and friends. It is pitiable to think of the misery which has been inflicted on these unhappy victims by harsh and unjust treatment—very much depends upon the tact, patience, and, above all, the personality of the physician; the man counts more than the method."[3]

Freud's method of psychoanalysis or mental catharsis, in which the old method of the confessional is used, is helpful in eliciting from the patient the cause which in most cases is unknown or at least not realized by him. Once determined, the cause can be removed by many methods. Suggestion is valuable. This may be aided by narcosis or deep ether anesthesia in which the patient is made to believe that the cause has been discovered and an operation has been performed to relieve the trouble. A strong imperative command may have the same effect. Hypnosis sometimes effects a miraculous cure. Since a hysteric in effect does see but shuts

off all consciousness of the things seen by the action of the subconscious mind apparently disconnecting the flow of visual impulses from the cortical areas of consciousness, it is sometimes possible to release these broken connections by the power of hypnosis.[4]

A hysteric should be handled sympathetically and never told that he can see but his visual defect freely admitted and a resolute effort made to overcome it, which may take days, weeks or years. Punishment in any form is to be avoided as useless and even tending to confirm the ailment. In so far as possible the mental causes of suffering, such as marital troubles, unhappy love affairs, distasteful employment or surroundings, etc., should be removed.

Hydrotherapy is sometimes helpful as is the occasional use of drugs. Tonics, as strychnine, arsenic, quinine, are useful, but sedatives like the bromides, barbiturates, etc., are to be avoided in so far as possible. Electricity in its various forms, including electric shock treatment, aids and sometimes effects a cure. Cures of blindness by Christian Scientists, faithhealers, visits to religious shrines, the laying on of hands, or the anointing with oil by self-professed miracle workers, can be explained by their dupes being affected with hysterical amaurosis.

Case Report

Mrs. F. Y., age 25 white, came to hospital January 15, 1947, complaining of blindness in the left eye. She said she woke up that morning and her left eye was blind. Upon examination she had vision R. E.—20/20. L. E.—O., with no light reflex. Fundi normal. Patient was thin and undernourished, weighing only 95 lbs. A mild collyrium was prescribed and she was given a guarded prognosis. Vision gradually returned showing 20/100 in one week; 20/80 in 2 weeks; 20/50 in 3 weeks; and 20/20 in 1 month. Later the following history was elicited. Her husband is a miner and got his leg injured in a mine accident November 1, 1946. He stayed in the hospital until the day before Christmas when he went home. Patient lost her appetite, lost flesh and became quite weak. A week later she tried to get up out of bed in the morning and collapsed on the floor, having complete paralysis of both limbs from the hips down. She was taken to the hospital where she regained the use of her limbs and was discharged after 3 days although she remained very weak. On January 15 she became blind in her left eye.

Comment

In the first place her subconscious mind resorted to the vicarious sacrifice of her own limbs for that of her husband, but realizing the uselessness of this, she resorted to the second expedient of shutting out the sight of her husband's injury by the blindness of her left eye. Reasoning from analogy, she probably retained the vision of the right eye as a concession to the unreason of blindness at all. Her refusal to see would no more affect this case than her vicarious offering of her own limbs had cured her husband's injured limb, from which he is still suffering 8 months at this writing from the time of injury. This case is as clearcut as that of Yvette[5] who became as blind as the blind heroine of the "Symphonie Pastorale"; however, not of Beethoven but the French film based on the romance of M. André Gide. Like Yvette, this patient was une fille émotive et impressionable et a une naïveté rafraîchissante qui semble donner raison à la théorie qui admet que l' hystérique reste enfant tout simplement (an emotional and impressionable girl and has a refreshing innocence which seems to give reason to the theory which admits that the hysteric always remains an infant).

Summary

A woman whose husband had received a severe injury of his leg became completely paralyzed in both limbs. Recovering from this she became blind in her left eye with complete recovery. Diagnosis, hysteria.

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THE CANCER COMMITTEE MEDICAL SOCIETY OF VIRGINIA

A Case Report

A forty-eight year old white woman was recently referred to a gynecology clinic with the following story:

About twelve months before, occasional scant post-coital vaginal bleeding was noted. About six months later, spotty bleeding independent of coitus began. Three months later, she consulted a physician who started her on estrogen therapy. When three months of this treatment produced no improvement, the physician referred her to the hospital.

On pelvic examination, the anterior lip of the cervix was found to be firm, nodular, and deeply eroded. There was slight thickening of the paracervical tissues. Biopsy from the border of the cervical erosion was reported "epidermoid carcinoma, grade I to II."

The patient has since received deep X-ray therapy followed by insertion of radium. It is still too early to evaluate the immediate result.

COMMENT: 1. The patient's disease remained undiagnosed and untreated for twelve months after appearance of a symptom which called for immediate complete investigation—vaginal bleeding (See *Bulletin*—Cancer of the Uterus, September 1, 1945). Nine months of the delay was the fault of the patient, three months must be blamed on her physician.

2. It is difficult to reconcile the tragic neglect of obvious cancer symptomatology by victim and physician with the often heard statement that attempts to inform laymen about cancer and to rouse physicians to "cancer consciousness" are overdone.

3. It is utterly inadequate medicine to treat abnormal vaginal bleeding on a presumptive diagnosis. The cause must be found and a diagnosis established before any thought is given to treatment.

4. The first step is a complete pelvic examination, including careful inspection of the cervix and biopsy of any suspicious areas. With the tissue diagnostic service now available to every physician in the State (even the containers for mailing specimens are supplied)*, there is no excuse for omission of biopsy. This simple procedure established the diagnosis immediately in the above case, and should have been carried out on the patient's first visit to her doctor.

5. Apparently estrogens were administered on the assumption that the patient's bleeding was a symptom of the climacteric. Aside from the fact that treatment was carried out on the basis of a presumptive diagnosis, it is doubtful that hormone therapy should ever be undertaken without gynecological consultation and guidance. Such therapy should certainly never be started before the patient has been completely investigated and the rationale for hormones thoroughly established.

A DIAGNOSIS OF CANCER WILL NOT BE MADE IN TIME FOR CURATIVE TREATMENT BY A PHYSICIAN WHO IS NOT CANCER CONSCIOUS

*Information about this service may be obtained from Dr. Mason Romaine, Director, Bureau of Cancer Control, State Health Department, Richmond, Va.

Gout May Be Allergic Condition.

Gout, a joint disease that often involves the big toe, may be an allergic condition, according to Joseph Harkavy, M.D., of the medical services of the Mount Sinai Hospital, New York.

Writing in the January 8th issue of *The Journal of the American Medical Association,* Dr. Harkavy says that in a study of three patients "it was possible to show that allergy to specific foods and pollens, as well as to infection, played a conspicuous role in the development of gouty symptoms." Acute attacks of gout could be induced in these patients, he found, by injecting pollen extracts beneath their skin or by feeding them certain foods.

Crippling arthritis of advanced gout may be the result of repeated allergic reactions in some patients, he believes.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for January 1949 as compared with the same month in 1948, is as follows:

	January 1949	January 1948
Typhoid and paratyphoid	2	10
Diarrhea and dysentery	345	244
Measles	2,363	755
Scarlet fever	63	147
Diphtheria	13	37
Poliomyelitis	5	1
Meningitis	9	9
Undulant fever	4	7
Rocky Mountain spotted fever	0	0
Tularemia	3	17

RABIES

Rabies is an acute infection of the central nervous system caused by a virus propagated in dogs and related wild animals such as the wolf, the fox, and the coyote. Man and all warm blooded animals are susceptible.

Rabies has been recognized in Europe and Asia since ancient times. Indeed, the period of summer reckoned by the rise of the Dog Star, Sirius, was a time when it was supposed that madness in dogs was most prevalent. In the boyhood of many of us this legend of antiquity persisted in the warning to beware of swimming during this period of "dog days".

The condition was described by Democritus (500 B.C.) and Aristotle (322 B.C.) while as early as 200 A.D., Galen advised surgical resection of the dog bite wound. Before the eighteenth century rabies was primarily a disease of wild animals. The first recorded epizootic of rabies among domestic dogs occurred in Italy in 1708. By 1728 it had appeared in the major cities of Hungary, Germany and France. There is no record of the disease in North or South American before their colonization by Europeans. State archives contain references to rabies in Virginia in 1753, in North Carolina in 1762, and it was prevalent among dogs in New England in 1785.

The following table shows the prevalence of rabies in animals and man during the past decade in the United States and Virginia:

	Dogs		Man	
Year	U.S.	Va.	U.S.	Va.
1938	8,452	55	47	3
1939	7,386	66	30	0
1940	6,194	97	28	0
1941	6,648	54	30	1
1942	6,332	89	28	0
1943	8,515	277	41	1
1944	9,067	334	53	1
1945	8,505	113	35	2
1946	8,384	108	22	1
1947	6,949	162	26	2
1948		158		0

There is no proved incidence of a human being having recovered from rabies. A case report in humans is therefore a mortality report. From 1908 to 1938 the annual human mortality in the United States varied from 33 to 103, with the highest incidence in 1928. There have been 11 deaths from rabies in Virginia since 1937.

Control measures recommended by the Conference on Rabies* called in Philadelphia in April 1947, are:

1. Adequate laboratory facilities for making examination of brain specimens from susceptible animals for Negri bodies.
   In Virginia such facilities exist in:
   (a) Virginia State Health Department Laboratory
   (b) Branch laboratories in Abingdon, Arlington and Luray
   (c) Richmond City Health Department Laboratory
2. Adequate control of animals through:
   (a) Licensing
   (b) Disposal of stray dogs
   (c) Control of dogs
3. Mass immunization of dogs
4. An educational program to inform the public at large, and dog owners in particular, of the essential facts regarding rabies and the principles concerned in its control.

*Composed of representatives of American Veterinary Medical Association, American Medical Association, United States Public Health Service, Bureau of Animal Industry of the U. S. Department of Agriculture, U. S. Livestock Sanitary Association, American Animal Hospital Association.

MISCELLANEOUS

American Medical Association Assessment For Educational Campaign.

As of February 17th, there were 487 Virginia doctors who have contributed to the special assessment by the American Medical Association. Prince Edward County in the Fourth District announces that they have contributed one hundred per cent and some other societies are not far behind. However, there are a good many societies that have not been heard from as yet. How about it? Let's hear from everyone so the Medical Society of Virginia can have as good a showing as any state—we would like to head the list!

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Dr. R. T. Jenkins
Dr. Clarence Porter Jones
Dr. Orvin C. Jones
Dr. Thomas C. Lawford
Dr. W. A. Mitchell
Dr. Herbert H. Neisser
Dr. I. Floyd Nesbitt
Dr. W. R. Payne
Dr. R. T. Peirce, Jr.
Dr. J. W. Phillips
Dr. F. W. Poindexter
Dr. W. O. Poindexter
Dr. J. T. Ransone
Dr. Louis J. Richman
Dr. J. W. Sayre
Dr. Edward V. Siegel
Dr. W. S. Snead
Dr. L. E. Stubbs
Dr. J. W. Tankard
Dr. F. N. Thompson
Dr. Lee B. Todd
Dr. W. H. Woodson

Wise County

Dr. L. E. Ball
Dr. W. B. Barton
Dr. Albert K. Bond
Dr. W. N. Botts
Dr. H. W. Clements
Dr. Clyde Collins
Dr. E. P. Cox
Dr. J. D. Creger
Dr. Joseph D. Culbertson
Dr. Dahar Cury
Dr. Darius Flinchum
Dr. G. T. Foust
Dr. J. H. Hagy
Dr. Frank E. Handy
Dr. C. L. Harshbarger
Dr. C. H. Henderson
Dr. B. C. Henson
Dr. R. W. Holly
Dr. H. H. Howze
Dr. S. H. Rivers
Dr. George C. Snead
Dr. T. J. Tudor
Dr. Louis N. Waters
Dr. Eugene J. Yorkoff
Dr. Guy Zimmerman
Dr. William H. Zimmerman

Pernicious Anemia.

Folic acid does not replace liver extract in treating pernicious anemia, point out Russell L. Haden, M.D., and Donald W. Bortz, M. D., of the Cleveland Clinic and Frank E. Bunts Educational Institute, Cleveland, in the November 20 issue of *The Journal of the American Medical Association.*

Folic acid, a vitamin contained in liver, is part of the vitamin B complex.

Pernicious anemia is a disease resulting from deficiencies which seem to be completely relieved by liver extract. The primary defect is a deficiency in a secretion of the mucous lining of the stomach, the factor which acts on food to form the substance or substances necessary for normal nutrition of bone marrow, the nervous system, the tongue, and the gastrointestinal tract. The serious, crippling lesion of the disease is involvement of the nervous system. Treatment must be permanent, as there is no evidence that the missing factor in the stomach ever returns.

Until the introduction of liver therapy, pernicious anemia was always fatal. Over 10,000 persons died yearly in the United States alone.

Lesions of the nervous system in pernicious anemia can be prevented and often helped by liver therapy, but not by folic acid, the physicians say. They doubt that the response of the bone marrow and gastrointestinal tract to folic acid is as satisfactory or as constant as it is to liver extract.

For other types of anemia characterized by an increase in the average size of the red cells of the blood, folic acid may be a better treatment than is liver extract, they believe.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—MRS. R. M. REYNOLDS, Norfolk
President-Elect—MRS. C. E. HOLDERBY, Hilton Village
Recording Secretary—MRS. T. S. CHALKLEY, Richmond
Corresponding Secretary—MRS. CHARLES LUPTON, Norfolk
Treasurer—MRS. REUBEN SIMMS, Richmond
Parliamentarian—MRS. H. W. ROGERS, Norfolk
Historian—MRS. M. H. HARRIS, West Point

The National Meeting.

Haddon Hall will be the headquarters for the annual meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 6th to 10th, 1949.

Requests for reservations should be sent at once to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, New Jersey.

Activities of Arlington Auxiliary.

At the October luncheon meeting of the Auxiliary, the president Mrs. J. R. McGriff presented Mr. John Henderson, administrator of the Arlington County Hospital with a check for $150.00, proceeds of a Bake Sale the Auxiliary had held the preceding month.

In November, the Auxiliary entertained its husbands at a dinner dance at the Washington Golf and Country Club.

The January meeting was well attended by members and guests. A very interesting talk, "Training Deaf Citizens", was given by the guest speaker, Dr. Leonard Elstad, president of Columbia School for the Deaf, Washington, D. C.

Four of the Auxiliary's members, Mrs. J. R. McGriff, Mrs. Robert Detwiler, Mrs. M. W. Glover, and Mrs. A. L. Orlosky, attended the Public Relations Conference in Richmond in January.

The February meeting was a joint meeting with the Arlington County Medical Society. Dr. Marjorie Shearon spoke on "The National Public Health Bill".

EILEEN B. GILLIGAN
(MRS. JOHN H.)
Publicity Chairman

Northampton-Accomac Auxiliary.

Nineteen members and one guest attended the meeting of the Auxiliary on January 25 at the home of Mrs. Charles T. Garcia at Dalbys. Following lunch, the president, Mrs. W. J. Sturgis, Sr., stated that the Auxiliary was beginning its thirteenth year with the slogan "Cooperation and Progress are Our Watchwords". It was announced that Dr. H. L. Denoon, Jr., and Dr. J. L. DeCormis would serve on their advisory council this year.

Mrs. DeCormis gave a report from the State meeting in Richmond, after which Mrs. Sturgis presented the speaker of the afternoon, Mr. James E. Douglas, treasurer of the Northampton-Accomac Hospital, whose topic was "Our Hospital: Its Work and Its Needs". He interestingly stated the details of operation of the hospital and told of its tangible and intangible needs.

CATHERINE R. TROWER, *Chairman*,
(MRS. HOLLAND)
Press and Publicity

BOOK ANNOUNCEMENTS

Doctors of Infamy. The Story of the Nazi Medical Crimes. By ALEXANDER MITSCHERLICH, M.D., Head of the German Medical Commission to Military Tribunal No. 1, Nuremberg; and FRED MIELKE. Translated by Heinz Norden. With Statements by Three American Authorities Identified with the Nuremberg Medical Trial; Andrew C. Ivy, M.D., Vice-President, University of Illinois, Medical Scientific Consultant to the Prosecution, Military Tribunal No. 1; Telford Taylor, Brigadier General, U. S. Army, Chief of Counsel for War Crimes; and Leo Alexander, M.D., Psychiatrist, Consultant to the Secretary of War and to the Chief of Counsel for War Crimes. Henry Schuman, New York. 1949. xxxix-172 pages. Illustrated with 16 pages of photographs. Cloth. Price $3.00.

Clinical Case-Taking. Guides for the Study of Patients. History-Taking and Physical Examination or Semiology of Disease in the Various Systems. By GEORGE R. HERRMANN, M.D., Ph.D., Professor of Medicine, University of Texas. Fourth Edition. St. Louis, The C. V. Mosby Company. 1949. 240 pages. Cloth. Price $3.50.

Social Medicine. Its Derivatives and Objectives. The New York Academy of Medicine Institute on Social Medicine, 1947. Edited by Iago Galdston, M.D. The Commonwealth Fund, New York. 1949. xvi-294 pages. Cloth. Price $2.75.

Essentials of Gynecologic Endocrinology. (With Sections on the Male). By GARDNER M. RILEY, Ph.D., Assistant Professor of Obstetrics and Gynecology, University of Michigan Medical School. Caduceus Press, Ann Arbor, Michigan. 1949. x-205 pages. Illustrated. Price $3.00.

Handbook of Orthopaedic Surgery. By ALFRED RIVES SHANDS, JR., B.A., M.D., Medical Director of the Alfred I. DuPont Institute of the Nemours Foundation, Wilmington, Delaware; etc. In Collaboration with RICHARD BEVERLY RANEY, B.A., M.D., Associate in Orthopaedic Surgery, Duke

University School of Medicine, Durham, North Carolina; etc. Illustrated by Jack Bonacker Wilson. Third Edition. St. Louis, The C. V. Mosby Company. 1948. xviii-574 pages. Cloth. Price $6.00.

This well rounded Handbook of Orthopedic Surgery first appeared in 1937 and in this short period of time has become the standby for the student and the general practitioner. The third edition is a further step to keep pace with the rapid advancement of orthopedic surgery in this modern age. Few things have been omitted, among them, the specific dosage of antibiotic therapy, and the recent advances in the use of homographs, made more available by the new bone banks.

The 76 page bibliography will be most helpful to workers in this field.

J. J. DOBBIE

Pathology. Edited by W. A. D. ANDERSON, M.A., M.D., F.A.C.P., Professor of Pathology and Bacteriology, Marquette University School of Medicine, Milwaukee, Wisconsin. St. Louis, The C. V. Mosby Company, 1948. xii-1453 pages. With 1183 Illustrations and 10 Color Plates. Cloth. Price $15.00.

Those who read this new book will have an opportunity to become acquainted not only with Dr. W. A. D. Anderson, author of the popular "Synopsis of Pathology" which is already in its second edition, but also with thirty-one other writers whose names frequently appear in current medical literature. In this volume Dr. Anderson, as editor, has brought together the specialized knowledge of this outstanding group of contributors concerning the various fields or aspects of pathology. The order of presentation of the material is a familiar one; that is, the earlier chapters are devoted to discussions of the fundamental disease processes in general and the later ones to diseases as they pertain to various organs and systems of the body. Dr. Anderson maintains this form of presentation "because it has been found logical and effective in teaching medical students and because it facilitates study and reference by graduates." However, the position of the chapter on "Heredity and Constitution in Disease", being the last one in the book, appears to be contrary to the intended form. For, because of the general nature of the discussion dealing with such things as modes of inheritance, mutations, susceptibility to infectious diseases and the relation of heredity to neoplasms, it probably would be placed more suitably among the earlier chapters.

The subject matter is comprehensively dealt with by each of the writers, and it is done with such remarkable completeness that the book will be useful not only to medical students but to practicing and graduate physicians as well. One will find timely discussions of certain conditions which were observed and studied with considerable interest during and after the recent war; e.g., the crush syndrome, shock, atom bomb injuries together with the nature and effects of radiation in general, and infectious hepatitis. In keeping with the need of the times, increased attention is given to certain viral, protozoal, parasitic and other conditions which are usually regarded as "tropical diseases". Also more than usual consideration is given to diseases of the skin, of organs of special senses, of the nervous system, and of the skeletal system. Most of the chapters dealing with diseases of organs or systems begin with a brief account of normal structure and function, knowledge of which, obviously, is essential for a proper understanding of pathology.

Because of the many contributors one may expect to find some repetition of certain subjects, but, doubtless, this is permitted for completeness of the individual chapters. Nevertheless, wherever there is such a discussion, a convenient reference is made to the page or chapter to which the reader may quickly turn for a more detailed description. One feature which may be annoying to the reader is the frequent use of small type throughout. Apparently this is done to limit the size of the book, for otherwise the number of pages would be greatly increased. Attractive features of this work are the large number of illustrations (1183 figures and 10 color plates) which, except for a few, are very good and the many, up-to-date, well-chosen references at the end of each chapter which should stimulate one to pursue further the problems of pathology.

In this authoritative textbook a successful attempt has been made "to present disease in as whole or as true an aspect as can be done with present knowledge", so that the hope expressed by the editor in his preface "that this book will be both a foundation and a useful tool for those who deal with the problems of disease" should indeed be realized. The book is recommended to medical students, to practicing physicians and to those receiving basic training in pathology; and it is highly deserving of a place in the pathologist's library.

THOMAS M. SCOTTI

EDITORIAL

Dr. Hugh S. Cumming (1869-1948)

ONE of the most distinguished careers in the history of public health came to an end December 20 with the death of Doctor Hugh Smith Cumming at his home in Washington, D. C.

Dr. Cumming, Surgeon General of the United States Public Health Service from 1920 to 1936 and for many years a world figure in his profession, had suffered a thrombosis on November 19, 1947, from which he only partially recovered.

It was during Dr. Cumming's administration of the Public Health Service and the important Pan American Sanitary Bureau, of which he had been Director for 27 years, that public health came to be recognized in the United States as a major responsibility of government in international as well as domestic affairs. Dr. Cumming, in his more than a half-century of service, became one of the dominant figures in this development.

Born in Hampton, Virginia, August 17, 1869, he acquired his early education in the Symmes-Eaton Academy, oldest public school in America, and in private schools before studying for a year at City College of Baltimore. Upon returning from Baltimore, he continued his studies in languages and sciences under private tutoring and for a year taught school in Harford County, Maryland.

In 1891 he entered the Medical Department of the University of Virginia from which he was graduated in 1893 with the degree of Doctor of Medicine. He was a member of Chi Phi Fraternity, Eli Banana Society and of the Raven Society. He was president of the Jefferson Literary Society and was one of the founders of the Pi Mu medical fraternity. He was elected most popular man in the university and historian of his class.

Following his graduation, Dr. Cumming went to Richmond as house doctor in Dr. Hunter McGuire's old St. Luke's Hospital, at the same time assisting Dr. McGuire in surgery in the University College of Medicine from which he graduated in 1894.

On February 10, 1894, young Dr. Cumming wrote a letter from St. Luke's which broke the ground for his long and distinguished career. It was a letter to Surgeon General Walter Wyman requesting information concerning examinations for entrance into the United States Marine Hospital Service. He took the examination and was one of four who were successful among 27 applicants.

Twenty-six years later, during which time the United States Marine Hospital Service had become, on July 1, 1902, the United States Public Health and Marine Hospital Service, and on August 14, 1912, the United States Public Health Service, Dr. Cumming was appointed as Surgeon General of the Public Health Service. On March 10, 1920, he took the oath for the first of his four successive terms in that high office. From the time he first entered the Service in 1894 Dr. Cumming served under nine presidents, under five of them as Surgeon General. During his twenty-six years of service, culminating in his appointment as Surgeon General, Dr. Cumming proved his abilities not only in the realm of science but in administration and diplomacy.

He served successively at the U. S. Marine Hospital, Staten Island, New York, Ellis Island, and Montauk Point, New York, in Mississippi and Louisiana, at Philadelphia and Cape Fear. These assignments included medical inspection of aliens, quarantine inspection of returning troops, and participation in Service work during a yellow fever epidemic.

In June 1899, Dr. Cumming was placed in charge of the South Atlantic Quarantine at Blackbeard Island, off the coast of Georgia, the United States refuge station for infective vessels from foreign ports. Here he treated yellow fever cases, and here he saw his first case of bubonic plague.

Following his recovery from an operation for appendicitis, Dr. Cumming was ordered, on December 2, 1901, to San Francisco, California, as Chief Quarantine Officer. It was during this tour of duty that Dr. Cumming's abilities as an administrator and diplomat first came into important play. Bubonic plague was known to be rampant in the area, but a disagreement had sprung up among Federal, State, and local authorities as to the seriousness of the outbreak and jurisdictional handling of the problem. Dr. Cumming was of assistance in harmonizing the differences and was able to aid in instituting constructive action. So successful was his administration as Chief Quarantine Officer of San Francisco that at the end of his four-year detail commercial and health interests joined in requesting his reassignment.

Following his San Francisco detail, Dr. Cumming served for four years in Japan, where he was sent in March, 1906, to the Office of the United States Consulate General in Yokohama to guard against exportation of plague and cholera to the United States. In Japan he had an opportunity to follow the research work of Kitisato and other great Japanese scientists and to further his knowledge of both the administrative and scientific handling of tropical diseases.

From Japan, he was ordered back to the United States and placed in charge of the Cape Charles Quarantine Station at Fortress Monroe, Virginia, to coordinate the confused quarantine situation in Hampton Roads.

In the Autumn of 1912, Dr. Cumming requested leave of absence to pursue his studies of tropical diseases in London, but was prevented from leaving by reports that pollution of tidal waters in the Chesapeake Bay was threatening wholesale destruction of the great oyster beds in that area. Dr. Cumming was assigned to this work, and his service gained him recognition not only in this country but abroad. His assignment later was extended to cover the entire Atlantic Coast.

With the advent of World War I, Dr. Cumming was detailed to the Office of the Surgeon General of the Navy, where he remained until the fall of 1918, when he was ordered by the President to report on sanitary conditions at camps in France and elsewhere, and at the ports of embarkation of returning United States troops.

As travel restrictions were relaxed following the war, intensifying the danger of infection from abroad, Dr. Cumming was given a general assignment by the President to conduct sanitation studies at European ports. This and similar assignments in this country and overseas not only made Dr. Cumming an outstanding authority on quarantine matters, knowledge that stood him in good stead in his work of completing the U. S. quarantine system during his tenure as Surgeon General, but gave him an unusual awareness of the importance of international cooperation in the field of health. During this period he took part in the conference at Cannes which resulted in the organization of the League of Red Cross Societies, and he held frequent conferences with leading health authorities of other countries on the subject of an international health organization.

In 1920, the same year he first took office as Surgeon General of the Public Health Service, Dr. Cumming was elected Director of the Pan American Sanitary Bureau, created by treaty in 1902 as the world's first international health organization. He held this office, concurrently with his other duties, until his retirement and election as Director Emeritus on February 1, 1947. He represented the United States Government at every Pan American Sanitary Conference from 1920 until his retirement

and saw the Bureau grow, in large part through his efforts, from little more than a reporting service to a full-fledged health organization, with professional, technical, and administrative representatives throughout Latin America.

In addition to his work with the Pan American Sanitary Bureau, Dr. Cumming found outlet for his interest in international health problems in the Office International d'Hygiene publique and in the Health Section of the League of Nations. He had played important parts in both bodies for nearly a quarter of a century prior to their dissolution in 1946 to make way for the new World Health Organization of the United Nations. In his capacity as Director of the Pan American Sanitary Bureau he attended both the Paris and New York conferences which led to the establishment of the new organization. For his work in international health, Dr. Cumming was decorated by many foreign countries and held honorary membership in a number of the world's leading medical bodies.

It was against the broad concept of health as an international, as well as a national, responsibility that many of the programs of Dr. Cumming's administration as Surgeon General of the United States Public Health Service were conceived, developed, and carried through.

It was during Dr. Cumming's administration that the national quarantine system was completed with Federal acquisition of the last state-owned quarantine station at the port of New York. Other achievements of the period included:

Reorganization of the Hospital Division of the Service and expansion of facilities, following World War I, to meet the needs of ex-service men and women; establishment of a national leprosarium; control of several outbreaks of bubonic plague in United States port areas; inauguration of the plan of assigning medical officers to American consulates abroad for examination of prospective emigrants to the United States; development and expansion of important research and field investigation activities of the Service, and the inauguration of studies of silicosis and other dust diseases which greatly extended knowledge in this field.

Dr. Cumming was also the key figure in a number of programs carried out with Congressional authorization during this period, including: Construction of a new building for the Public Health Service headquarters in Washington, now occupied by the Atomic Energy Commission; construction of eleven new Marine Hospitals in the United States; construction of two hospitals for treatment of narcotic addicts; establishment of the Division of Mental Hygiene in the Public Health Service; construction of new quarantine stations at principal ports of the United States; enlargement of the Corps of Commissioned Officers of the Public Health Service to include dental, engineering, and pharmacy personnel as well as medical officers.

Dr. Cumming inaugurated a study of malignant growths by medical officers of the Service at Harvard University and at the Hygienic Laboratory, forerunner of the National Institutes of Health, which have developed into a major function of the Service.

An alumnus of the first class of the old Hygienic Laboratory, which had carried on its work in the attic of the old Service Headquarters, Dr. Cumming, as Surgeon General, made it his business to obtain appropriations for an expansion of this activity.

His efforts in this direction culminated shortly before his retirement in a gift of land at Bethesda, Maryland, and the passage of appropriations with which were constructed the present National Institutes of Health.

Following the discovery of vaccines for Rocky Mountain Spotted Fever, by an officer of the Public Health Service, Dr. Cumming arranged for the Service to take over a small laboratory at Hamilton, Montana, and obtained appropriations for its

enlargement. It was in this laboratory that these vaccines, as well as the present yellow fever vaccine, were manufactured.

Industrial medicine and sanitation was another field in which considerable progress was made during Dr. Cumming's administration. When many leading public health authorities in the country were campaigning against the use of tetra-ethyl lead in gasoline, Dr. Cumming appointed a board to prescribe the conditions under which tetra-ethyl might safely be manufactured and used. As a result, use of the fuel was greatly facilitated, a fact of incalculable significance not only in the industrial and social progress of the country but in its position as a military power as well.

It was during Dr. Cumming's administration also that standards for safe production, processing, and handling of milk were introduced throughout the country. Important strides also were made in the field of stream sanitation.

Dr. Cumming's foreign citations were additional to the many honors accorded him in the United States by educational, professional, and public organizations and institutions. He was an honorary fellow of the American College of Surgeons, the American College of Physicians, and the American College of Dentists; a life member of the American Public Health Association, the American College of Physicians, the Association of Military Surgeons of the United States, the American Hospital Association, and the United States-Mexican Border Public Health Association.

He was a past president of the Association of Military Surgeons of the United States, the Southern Medical Association, the American Public Health Association, and the Gorgas Memorial Institute of Tropical and Preventive Medicine.

He served from 1929 as a member of the Board of Visitors of Saint Elizabeth's Hospital, Washington, D. C., a Presidential appointment, and also was an active member of the Board of Directors of Garfield Memorial Hospital, Washington, D. C. He held honorary degrees from the Medical College of Virginia, the University of Pennsylvania and Yale University. In 1936 he was awarded the Hartley Gold Medal by the National Academy of Science for "Application of Scientific Knowledge to Public Service". Other citations included the Gorgas Medal and Prize of the Association of Military Surgeons of the United States for "distinguished service in the field of national and international public health" and the William Freeman Snow Award "For Distinguished Service to Humanity".

Dr. Cumming was married October 28, 1896, at Carters Grove, Virginia, on the James River, to Lucy Booth, daughter of Dr. Edwin Gilliam Booth. In addition to his wife, he leaves a son, Hugh Smith Cumming, Jr., counselor to the American Embassy at Stockholm, and a daughter, Clara Diana, wife of Manville Kendrick, of Sheridan, Wyoming. Two grandsons also survive, John B. Kendrick, II, and Hugh Smith Cumming Kendrick.

Dr. Cumming was buried at Hampton, Virginia, in the churchyard of St. John's, oldest English parish in America, December 24, 1948.

—U. S. PUBLIC HEALTH SERVICE

Our Scattered Health Activities

AS we went to church this morning we turned on the radio, partly to see if our watch were right (it has a way of running down on Sunday morning) and partly to see if there were any good news on the air. We pressed quickly one button after another, until a familiar voice arrested our attention. It was telling the radio audience that the only hope of the world today and its inhabitants was to do fewer things but to do them well.

We were reminded of our scattered efforts to secure better health for all the people.

The problem is a tremendous one and is worthy of the best efforts and the cooperation of all the purveyors of medical care whether they be government agents, private foundations, or the individual practitioners of curative medicine. But what do we have? Government sowing dissension in the medical ranks.

Great foundations such as the Rockefeller Foundation have shown what can be done with money and organization when we learn how certain diseases can be prevented or cured. Hookworm disease and yellow fever have been eradicated from large areas of the globe. We have the "know-how" in regard to other diseases. Tuberculosis still kills more young adults than any other disease. Gonorrhoea is the second most prevalent disease and syphilis is the third. The United States Government has entered both of these fields. Why not complete these jobs instead of taking over the private practice of medicine? We hear much about the unequal distribution of medical care. What about the unequal distribution of public health activities? Many counties of Virginia, and elsewhere, have no health officers or public health nurses.

We are aware that the private practice of medicine has many shortcomings, the chief of which being its increasing cost and the uneven distribution of doctors, nurses and dentists. In spite of these defects, American medicine is today doing a good job. More Americans get better medical care than any people in the world. With prepaid medical care plans, which are rapidly developing, everyone should be able to have all the medical care he wants without financial hardship.

The American Medical Association

THE American Medical Association is being "smeared" on a nation wide scale by the officers of the Social Security Agency in their propaganda for compulsory health insurance. Under the circumstances it might be well to keep in mind the aims, objects and organization of the A. M. A. The American Medical Association was organized in 1847 for the prime purpose of improving medical education. The study of epidemics was also a part of its early activity. It was largely responsible for the formation of Boards of Health in the various states. For years it fought single handed for good medical education. Among other achievements has been the bringing about of truthful medical advertising and the establishment of standards for hospitals, drugs, food and the appliances used in the treatment of the sick. Besides a number of scientific journals, it publishes at less than cost, the complete index of the medical literature in the world. The prime motive back of all these activities has always been the welfare of the patient. It might well say in the words of a publication of the Rotary International "Service is My Business".

The business of the Association is conducted by the House of Delegates, composed of a representative for each 1,000 members of the state societies, and one representative from each scientific section of the Association. In addition, there is one delegate each from the Army, Navy and Public Health Service. The Board of Trustees acts as an Executive Committee in the interim between the meetings of the House of Delegates. Thus the American Medical Association represents the great majority of doctors of medicine in the United States. It has authority to speak for the medical profession but it has no authority over the individual doctor. If a doctor violates the code of ethics, a document written by Thomas Percival in England in the 18th Century and later re-written by the late William H. (Popsy) Welch in the 20th Century, he may be tried by his local society. Should his local society drop him from membership, he is automatically dropped by his state society and by the American Medical Association.

The A. M. A. is your organization—if it does not do what you want, it is because

the doctors back home do not let their representatives in the House of Delegates know what they want.

Nebraska Legislature Petitions Congress

THE following is from page A 212, Congressional Record-Appendix, January 17, 1949.

"Resolution memorializing the Congress of the United States with respect to a national compulsory sickness insurance program:

"Whereas the American people now enjoy the highest level of health, the best standards of scientific medical care and the finest medical institutions ever attained by any major country in the world; and

"Whereas these accomplishments of American medicine are the results of a free people working under a system of free enterprise; and

"Whereas the experience of all countries where government has assumed control of medical care has been a progressive deterioration of medical standards and medical care, to the detriment of the health of the people: now, therefore, be it

"Resolved by the members of the Nebraska Legislature in sixty-first session assembled:

"1. That the Legislature of the State of Nebraska respectfully request the Congress of the United States to refrain from imposing upon the citizens of this nation any form of compulsory insurance, or any system of medical care designed for national bureaucratic control.

"2. That Nebraska Senators and Representatives now in the Congress of the United States be and are hereby respectfully requested to use every effort at their command to prevent the enactment of such legislation.

"3. That copies of this resolution be transmitted by the Clerk of the Legislature to the President of the United States, the presiding officers of the United States Senate and United States House of Representatives and to each Senator and Congressman from Nebraska."

That Nebraska should be the first State to send resolutions to Washington against compulsory health insurance is not just a coincidence. Nebraska is one of four states to have a public debt of less than one dollar per capita. The people of Nebraska have always counted the probable cost of their proposed legislation. For that reason one would expect that this state be out in front in the opposition to bureaucratic medicine.

Note. Since the above was written the Arkansas Legislature has passed a similar resolution without a dissenting vote.

SOCIETIES

The Mid-Tidewater Medical Society

Held its first quarterly meeting for 1949 on January 25th, at the West Point Country Club. The usual business session was omitted to give more time for the speakers of the evening.

Dr. M. P. Rucker, Richmond, president of the Medical Society of Virginia, made a few introductory remarks outlining the problems confronting the American medical profession, which problems were to be discussed by the other speakers on the program.

Dr. Guy W. Horsley, Richmond, explained the assessment that had been made by the American Medical Association and the reasons that it was necessary for each physician to do his part.

Dr. J. L. Hamner of Mannboro spoke on the American Academy of General Practice. He gave a brief history of the Academy and especially of the Virginia section of the Academy.

The main address of the evening was made by Dr. Walter B. Martin of Norfolk, who explained clearly and forcibly why it was necessary for the medical profession to take immediate and adequate steps to prevent proposed legislation from being enacted, that is now being made ready for congressional consideration.

At the conclusion of the discussion of the papers presented by the above speakers, Dr. M. H. Harris, President of West Point moved that the secretary of the Mid-Tidewater Medical Society be instructed to write to each of the members of the Society requesting them to make their payment of the assessment to the secretary-treasurer of the society. The motion was carried unanimously.

Dr. William H. Hosfield, West Point, is secretary-treasurer.

The Tazewell County Medical Society

Met February 3, at the River Jack Restaurant for dinner. The meeting was presided over by Dr. G. D. Vermilya of Richlands, who assumed office at this meeting. Three new members were elected to the society. They are:

Drs. Lewis H. Armentrout and Harry L. Day of Richlands, and P. P. Ferraraccio of Bluefield.

During the business meeting the $25.00 assessment proposed by the A.M.A. was discussed and it was the desire of the members present that the Society go on record as endorsing this plan and all agreed to support it by paying the assessment promptly.

Dr. Lewis H. Armentrout read a paper on "The Recognition and Treatment of the More Common Ear Disease" which involved a great deal of comment and discussion and was well received.

MARY ELIZABETH JOHNSON, *Secretary*

The Northampton County Medical Society

Held its regular quarterly meeting at the Eastville Inn on January 13, at which time Dr. Walter B. Martin of Norfolk spoke on "Dangers to the Public of Socialization of Medicine". He also told of his observations of the plan in England, where he had recently visited.

The annual election of officers resulted as follows: President, Dr. J. M. Lynch, Cape Charles; vice-president, Dr. W. Carey Henderson, Nassawadox; and secretary-treasurer, Dr. Charles T. Garcia, Cape Charles.

The Wise County Medical Society

Met at Norton on February 2nd with a dinner beginning at 7:30 P.M. There were twenty-seven members present. Dr. Joseph R. Blalock, Marion, presented a very interesting lecture on Psychosomatic Illness. Color films on Intragastric Therapy and Appendicitis were also enjoyed.

New officers were elected as follows: President, Dr. B. C. Henson, Roda; vice-presidents, Drs. G. T. Foust, Norton, F. E. Handy, Appalachia, and J. D. Culbertson, Coeburn. Dr. T. J. Tudor, Norton, was re-elected secretary-treasurer. Dr. Ernest J. Benko, Norton, was elected to the Board of Censors.

In the drive for funds for the educational campaign of the American Medical Association, twenty-six of this group contributed $25.00 each.

The Shenandoah County Medical Society,

A unit of the Northern Virginia Medical Society, had Dr. George Murphy of Winchester as leader of a clinico-pathologic conference at its January meeting. At the February meeting, Dr. Maurice Young, of Johns Hopkins University, Baltimore, spoke on "Clinical Significance of Systolic Murmur in Childhood".

Dr. George G. Crawford of Strasburg is president and Dr. C. L. Gossels of Mt. Jackson secretary.

The Arlington County Medical Society

And its Woman's Auxiliary held a joint meeting at the Washington Golf and Country Club on the evening of February the 17th, at which time Marjorie Shearon, Ph.D., spoke on "Federal Propaganda for the Welfare State". A social hour followed.

At its regular meeting on January the 20th, the Society passed a resolution approving the action of the American Medical Association regarding socialized medicine and the $25.00 assessment.

Dr. John T. Hazel and Dr. John B. Leary are president and secretary, respectively, of this Society.

Roanoke Academy of Medicine.

Following dinner in the ball room of the Hotel Patrick Henry on February the 7th, there was a short business session, after which Dr. Theodore Woodward, associate professor of medicine at the University of Maryland, by invitation, addressed the Academy on "Clinical Uses of Chloromycetin and Aureomycin".

The Academy recently appointed the following doctors as its committee on public relations: Dr. Fred E. Hamner, Dr. W. L. Powell and Dr. David S. Garner.

The president and secretary of the Academy are Dr. Charles H. Peterson and Dr. T. J. Humphries.

James River Medical Society.

At the annual meeting of this society, held recently, Dr. E. J. Haden of Ore Bank was elected president, Dr. Russell Snead of Columbia vice-president, and Dr. Garland Dyches of Dillwyn was re-elected secretary-treasurer.

Lee County Medical Society.

At the regular meeting of this Society on January the 26th, the following officers were elected for 1949: President, Dr. G. C. Sumpter, Rose Hill; vice-president, Dr. Chas. C. Carr, Pennington Gap; and secretary-treasurer, Dr. J. H. Dellinger, also of Pennington Gap.

The Orange County Medical Society

Met at Orange on January 26, with the president, Dr. C. Cameron Kress of that place presiding at a dinner meeting. There was an attendance of forty-five, including members, dentists, nurses, and representatives from civic organizations. Talks were given by Dr. V. W. Archer, councilor, Dr. M. P. Rucker, president of the Medical Society of Virginia, and by Henry S. Johnson, director of public relations of the State Society. Dr. J. G. Bruce of Gordonsville is secretary.

Lynchburg Academy of Medicine.

Following a short business session at the January meeting of the Academy, when Dr. Wm. T. Pugh was installed as president, and Dr. S. Miles Bouton, Jr., full-time pathologist at the Lynchburg General Hospital, was elected to membership, Dr. George B. Dowling of Washington, D. C., deputy administrator of the Red Cross National Blood Program, spoke on its program. A number of visitors connected with the local and surrounding Red Cross chapters were present.

NEWS

Seminar On Immunity and Allergy and Stuart McGuire Lectures.

The Department of Continuation Education of the Medical College of Virginia, Richmond, will present a program on allergy and immunology in connection with the Stuart McGuire Lectures on March 17th and 18th. This will be open to all physicians, and the program is as follows:

MARCH 17TH

9:00-10:00 a.m.—WHAT THE DOCTOR SHOULD KNOW ABOUT HAY FEVER—Dr. Will C. Spain, Professor of Clinical Medicine, New York Post-Graduate Medical School; Director, Department of Allergy, New York Post-Graduate Hospital.

10:00-11:00 a.m.—TREATMENT WITH SPECIAL REFERENCE TO INTRACTABLE ASTHMA—Dr. Horace S. Baldwin, Assistant Professor of Clinical Medicine, Cornell Medical School, New York City; Director, Allergy Clinic, New York Hospital.

11:00-12:00 a.m.—ALLERGY IN RELATION TO MEDICINE AS A WHOLE—Dr. Wingate M. Johnson, Professor of Clinical Medicine, The Bowman Gray School of Medicine, Winston-Salem, North Carolina.

2:00- 3:00 p.m.—THE DIFFERENTIAL DIAGNOSIS IN ALLERGIC CONDITIONS—Dr. Horace S. Baldwin.

3:00 -4:00 p.m.—THE TREATMENT OF POISON IVY AND OTHER CONTACT DERMATOSES—Dr. Will C. Spain.

STUART MCGUIRE LECTURE I

8:00 p.m.—THE CHANGING CONCEPT OF ALLERGY. (1) Underlying Mechanisms—Dr. Harry L. Alexander, Professor of Clinical Medicine, Washington University School of Medicine, St. Louis, Missouri.

MARCH 18TH

9:00-10:00 a.m.—THE MANAGEMENT OF THE ASTHMATIC CHILD—Dr. Robert Chobot, Assistant Clinical Professor of Pediatrics, Columbia University, New York City; Chief of Pediatric Allergy Clinic, New York Post-Graduate Hospital.

10:00-11:00 a.m.—URTICARIA AND ANGIONEUROTIC EDEMA—Dr. Walter L. Winkenwerder, Assistant Professor of Medicine, Johns Hopkins University, Baltimore, Maryland.

11:00-12:00 a.m.—THE ROLE OF INFECTION IN ALLERGY—Dr. Oscar Swineford, Jr., Professor of the Practice of Medicine, University of Virginia, Charlottesville, Virginia; Chief, Allergy Clinic, University Hospital.

2:00- 3:00 p.m.—THE VASOMOTOR RHINITIS PATIENT—Dr. Walter L. Winkenwerder.

3:00- 4:00 p.m.—NEW DRUGS IN THE TREATMENT OF ALLERGIC DISEASES—Dr. Robert Chobot.

STUART MCGUIRE LECTURE II

8:00 p.m.—THE CHANGING CONCEPT OF ALLERGY. (2) Clinical Examples—Dr. Harry L. Alexander.

Dr. Frank L. Apperly,

Professor of Pathology at the Medical College of Virginia, has been named by President of the United States, Harry S. Truman, to serve as a senior surgeon in the United States Public Health Service Reserve. Dr. Apperly's appointment in addition to calling for advisory service may also call him to active duty within the confines of the United States in the event of emergency.

Dr. H. Norton Mason,

Richmond, was recently installed as the new commander-in-chief of the Stonewall Jackson Post 981 of the Sons of Confederate Veterans.

Married.

Dr. John Moyer Meredith and Miss Etta Elizabeth Hazelgrove, both of Richmond, January 28th.

Dr. Herbert Clifton Allen, Jr., Richmond, and Mrs. Elizabeth Hunt Wheeler, Bedford, Pennsylvania, February 1st. He is a graduate of the Medical College of Virginia in 1941. They will make their home in Southern California.

News From School of Medicine, University of Virginia.

On January 21, under the auspices of the Postgraduate Program for House Officers, Dr. Donald Monroe, Harvard University, and Dr. Charles W. Cashman, Rutland Heights Veterans Administration Hospital, Rutland, Massachusetts, presented to the faculty and student body a discussion of the subject, "Social and Work Rehabilitation for Patients Paralyzed as the Result of Spinal Cord Injury".

At the annual meeting of the Southeastern Allergy Association in Durham, North Carolina on January 22 and 23, Dr. Oscar Swineford conducted a panel on "Infectious Asthma". Included in this panel was a discussion of "History and Physical Examinations and Skin Testing in the Diagnosis of Infectious Asthma" by Dr. Swineford, and a discussion of "The Conservative and Surgical Treatment of Sinusitis in Infectious Asthma" by Dr. Fletcher Woodward, Professor of Otolaryngology. At this meeting, Dr. Swineford was elected president of the Southeastern Allergy Association.

On January 25, Dr. H. B. Mulholland spoke to the Board of the Farmville Community Hospital, Farmville, on the subject: "Medical Care in Virginia".

Dr. C. J. Frankel, Associate Professor of Orthopedics, spoke to the Augusta County Medical Society on January 28th on the subject, "Low Backache".

Dr. Vernon W. Lippard, formerly Dean of the School of Medicine of Louisiana State University, assumed his duties as Dean of the University of Virginia Medical School on February 1. Dr. Lippard succeeds Dr. H. E. Jordan who has served as Dean of the Medical School since 1939. Dr. Jordan will remain with the Medical School as Professor of Anatomy until his retirement in June.

At the Fourth Annual National Conference on Rural Health, held in Chicago, Illinois on February 4th, Dr. H. B. Mulholland, Professor of Internal Medicine, gave a lecture entitled "Animal Diseases Affecting Humans".

Academy of General Practice Application Blanks.

Many members of state and county medical societies have written to their journals inquiring as to how they can procure application blanks for membership in the American Academy of General Practice. The national headquarters office is located at 231 West 47th Street, Kansas City 2, Missouri, and Mr. Mac F. Cahal is the executive secretary. This office will be glad to forward application blanks to practitioners living in states with no state chapter. But where a state chapter exists, blanks must be secured from the secretary of the respective constituent state chapter. The secretary of the Virginia chapter is: John O. Boyd, Jr., M.D., 820 South Jefferson, Roanoke.

Southeastern Allergy Association.

At the recent meeting of this Association held in Durham, North Carolina, Dr. Oscar Swineford, University of Virginia, was elected president and Dr. Oscar Hansen-Pruss, Duke University, vice-president.

Dr. C. Howard Cain,

Class of '30, Medical College of Virginia, formerly located in Wakefield, is now clinical internist on the staff of Edgewood Sanatorium, Orangeburg, South Carolina.

International Congress On Rheumatic Diseases.

The American Rheumatism Association will conduct its Seventh International Congress, May 30th

to June 3rd inclusive, in New York, under the auspices of the International League Against Rheumatism. The Congress will be devoted to the subject of rheumatic diseases in all its phases, together with certain allied topics. There will be five morning and two afternoon plenary sessions in the ballroom of the Hotel Waldorf-Astoria, which is headquarters hotel. On three afternoons there will be concurrent programs at five of the large New York hospitals. There will be three or four clinical papers presented followed by discussions; a one hour clinic, showing cases relating to the papers, and a forty-five minute round-table discussion.

Dr. Ralph Pemberton, Philadelphia, is president of the International League Against Rheumatism, and Dr. Richard H. Freyberg, New York, of the American Rheumatism Association.

The Virginia Radiological Society

Will hold an interim scientific session on April 2nd at the University of Virginia Hospital, Charlottesville. The following program will be presented:

9:00 a.m.—UNUSUAL PYELOGRAMS AND FOLLOW-UP INFORMATION BY THE DEPARTMENT OF UROLOGY—Drs. Vest, Warren and Merren.
Discussion and Questions—10 minutes.

9:40 a.m.—DIAGNOSIS OF OBSCURE LESIONS OF THE SPINAL COLUMN, DEPARTMENT OF ORTHOPAEDICS—Drs. Funsten and Frankel.
Discussion and Questions—10 minutes.

10:20 a.m.—SURGICAL RELIEF OF PAIN IN CANCER PATIENTS, DEPARTMENT OF NEUROSURGERY—Drs. Gayle Crutchfield and Martinez.
Discussion and Questions—10 minutes.

11:00 a.m.—THE COURSE AND TREATMENT OF SUPERFICIAL HEMANGIOMAS, DEPARTMENT OF SURGERY—Dr. W. H. Parker.
Discussion and Questions—10 minutes.

11:40 a.m.—THE PLACE OF X-RAY IN ACTIVE UPPER GASTRO-INTESTINAL BLEEDING, DEPARTMENT OF SURGERY—Dr. W. R. Sandusky.
Discussion and Questions—10 minutes.

12:20 a.m.—THE CHANGING CONCEPT IN THE SURGICAL MANAGEMENT OF PULMONARY ABSCESS BY THE DEPARTMENT OF THORACIC SURGERY—Drs. Drash and M. L. White.
Discussion and Questions—10 minutes.

2:00 p.m.—Dr. James F. Brailsford, Birmingham, England—*invited guest.* Subject to be announced later.

3:00 to 4:30 p.m.—Presentation of interesting films with clinical history and follow-up, if possible. Members bring their own cases.

All meetings will be held in the auditorium of McKim Hall which is the Nurses' Home for the University Hospital.

Dr. C. H. Peterson, Roanoke, and Dr. P. B. Parsons, Norfolk, are president and secretary, respectively, of this Society.

The Industrial Physicians and Surgeons

Of the United States and Canada will hold their 34th annual meeting at Detroit, April 2-9, with headquarters at the Book-Cadillac and Statler Hotels. Participating groups are: American Conference of Governmental Industrial Hygienists American Industrial Hygiene Association; American Association of Industrial Dentists; and American Association of Industrial Nurses.

The Southwestern Virginia Medical Society

Will hold its next meeting on Thursday, May 26th, at the Hotel Roanoke, beginning at 2:00 P. M., with a banquet at 7:00 at which there will be two guest speakers. Dr. R. M. DeHart is president and Dr. Andrew F. Giesen, secretary-treasurer. Both are of Radford.

Congress On Obstetrics and Gynecology.

The International and Fourth American Congress on Obstetricts and Gynecology will be held on May 14-19, at the Hotel Statler, New York City. The morning meetings will be general sessions devoted to one of five topics: physiology of human reproduction; the pathology of human reproduction; social and economic problems; neoplastic diseases of the female reproductive system; and (5) obstetric and gynecologic procedures. The afternoons will be given over to meetings of the various groups represented.

All inquiries pertaining to the meeting should be addressed to the Chairman, Dr. Fred L. Adair, 24 West Ohio Street, Chicago 10, Illinois.

Virginia Council On Health and Medical Care.

Dr. H. B. Mulholland, University of Virginia, was re-elected chairman of this organization at its recent meeting, and Senator Charles R. Fenwick, Arlington, was named first vice-chairman. Miss Ellen H. Smith, Richmond, is secretary. The Council approved a resolution recommending establishment of full-time public health chairs at the University of Virginia and the Medical College of Virginia.

Lancaster County Health Unit.

A health committee to be known as the Lancaster County Health Unit has recently been established at Kilmarnock, with Dr. Melvin B. Lamberth, Jr., of Kilmarnock, as president.

The Philadelphia County Medical Society

Will hold its 13th Annual Postgraduate Institute at the Bellevue-Stratford Hotel, Philadelphia, from April 5-8, 1949. The program has been arranged on the basis of symposia and the following subjects will be covered: Diseases of the Circulatory System; Common Conditions in the Oral Cavity; Diabetes; Anterior Poliomylitis; Blood Dyscrasias; Diseases of the Kidney; Miscellaneous Problems; Pain; Industrial Medical and Surgical Problems; Common Obstetric Problems; Problems of Infancy and Childhood; Eye, Ear, Nose and Throat; Gastro-Intestinal Problems; Vaginal Discharge (Causes and Treatment).

There will be the usual number of high-grade technical exhibits. The admission fee for the entire Institute is $5.00. Programs will be available very shortly. For further details contact Gilson Colby Engel, M.D., Director, 301 South 21st Street, Philadelphia 3, Penna.

Course in Medical Mycology

A month's course in Medical Mycology under the direction of Dr. Norman F. Conant, is to be offered at Duke University School of Medicine and Duke Hospital, Durham, N. C., during July, 1949. The course will be offered every day in the week, except Sunday, and has been designed to insure a working knowledge of the human pathogenic fungi within the time allotted.

The number of applicants for the course will be limited and the applications will be considered in the order in which they are received. An attempt will be made, however, to select students on the basis of their previous training and their stated need for this type of work.

A fee of $50.00 will be charged for this course, upon the completion of which a suitable certificate will be awarded. Please direct inquiries to Dr. Norman F. Conant, Duke University School of Medicine, Durham, N. C.

Fellowships Available.

On July 1, 1949, there will be available several two-year fellowships in the Medical Department, Duke University School of Medicine, Durham, N. C. The stipends will be $2,400 the first year, and $3,000 the second year. Only those who have completed three years of training in internal medicine, or a satisfactory equivalent, will be eligible for these positions, which have been designed to prepare the candidate for the practice of internal medicine. The following places will be available:

1. Hematology and Allergy
2. Pulmonary diseases
3. Gastro-enterology
4. Hypertensive cardiovascular and renal diseases
5. Metabolic diseases
6. Cardiology
7. General Internal Medicine and Therapeutics

Anyone interested should write to Dr. Eugene A. Stead, Jr., Professor of Medicine, Duke University School of Medicine, Durham, North Carolina.

Richmond Chapter, American Heart Association.

Dr. William H. Higgins is president of the Richmond Chapter of the American Heart Association, with Irving May and Mrs. Dave Satterfield, Jr., as vice-presidents, and Luke H. Fairbank as secretary-treasurer. A number of prominent laymen as well as the following doctors constitute the list of directors: Drs. Robley D. Bates, Nathan Bloom, Alex. G. Brown, III, Paul D. Camp, Douglas G. Chapman, Dean B. Cole, H. W. Decker, Louise F. Galvin, Emily Gardner, Wm. H. Higgins, J. Morrison Hutcheson, Edward M. Holmes, Carolyn McCue, William B. Porter, Reno Porter, Wellford C. Reed, W. Taliaferro Thompson, Jr., Armistead Williams, and Ennion S. Williams.

Study of Child Health Services.

Publication of the national report on the findings of the recently completed 2½-year study of child health services will be marked by a dinner on April 2nd in New York City, according to announcement of Dr. Warren R. Sisson, President of the American Academy of Pediatrics. A nationally known layman as well as an outstanding authority in medicine and public health will be guest speakers. The two-volume report which is now in press is being published by the Commonwealth Fund of New York.

Approve Chicago Medical School.

The American Medical Association and the As-

sociation of American Medical Colleges has granted full aproval to the Chicago Medical School.

The recognition gives Chicago five approved medical schools, an equal number with New York City.

Announcement of the approval was made at White Sulphur Springs, W. Va., where the A. A. M. C. was holding its annual meeting. The Council on Medical Education and Hospitals of the A. M. A. met simultaneously to take action on the Chicago Medical School. A joint statement said:

"The Chicago Medical School now offers an educational program that meets the standards for an approved medical school. Therefore, the school is now included on the list of approved medical colleges and hospitals of the A. M. A. and is admitted to membership in the A. A. M. C.

"This action applies to all students now enrolled in the regular four year course at the school."

For Sale.

Eye, ear, nose and throat practice of Dr. F. A. Ward, deceased, including all equipment. For particulars, write Mrs. F. A. Ward, P. O. Box 166, Suffolk, Virginia. (*Adv.*)

Wanted.

Industrial and colliery physician for one staff opening soon. Salary and extras about $700 a month net. General practice and obstetrics in home. Must be A grade medical school graduate. Sober, no addiction and dependable. Three bedroom steam heated home. Easy access to large shopping centers. Interview necessary. Write full details to Dr. W. B. Barton, Stonega, Virginia. (*Adv.*)

Internist,

31, Board Eligible, available July 1949, group or association; graduate University of Virginia; fellowship cardiology; residencies neurology and internal medicine; competent in electrocardiography; Alpha Omega Alpha; Protestant; Veteran; Married; Prefer East. Write "Internist", *Virginia Medical Monthly,* 1200 East Clay Street, Richmond 19. (*Adv.*)

Doctor Wanted.

Doctor wanted to take over well equipped, eight-room doctor's office, with well established practice in eastern North Carolina town of 3,000 population. Modern hospital 18 miles distant on Route 301 South. If interested, write Harrison Drug Company, Enfield, North Carolina. (*Adv.*)

Position At Station Hospital.

There is a vacancy in the Station Hospital at Camp Lee, Virginia, for a Medical Officer (Eye, Ear, Nose and Throat), P-5, $6,235.20 per annum. Any one interested, should communicate with Employee Utilization Section, Civilian Personnel Headquarters, Camp Lee, Virginia. (*Adv.*)

OBITUARIES

Dr. Hunter Holmes McGuire,

Former president of the Medical Society of Virginia and member of many of its committees from time to time, died in his sleep at his home in Winchester, in the early morning of January 22. He was born in Winchester in 1875 and studied medicine at the former University College of Medicine, Richmond, from which he graduated in 1897. He joined the Medical Society of Virginia the following year and was among those honored in the "Fifty Year Club" at the last meeting of the Society. He had always been active in civic affairs and was one of the founders of Winchester Memorial Hospital and had been its president for forty-eight years. He was also a founder and first president of the Virginia Society of Ophthalmology and Oto-Laryngology, and a past president of the American Ophthalmological Society. He is survived by his wife and three children by a former marriage, one of them, Dr. William P. McGuire with whom he was associated in practice.

RESOLUTION

BE IT, AND IT IS HEREBY RESOLVED by the Medical Staff, Winchester Memorial Hospital, Winchester, Virginia, meeting in regular monthly session this second day of February, 1949, that:

1. The sudden death of Dr. Hunter Holmes McGuire

on Saturday morning, January 22, 1949, is regarded by the members of this Staff to represent a loss of irreparable kind—not only to the Hospital, the founding of which was made possible by his guiding hand, but also to our own profession, which he so valiantly upheld, and the standards of which he constantly strove to further, and a loss to the community as a whole wherein he lived, and one to his many warm friends, admirers, and professional associates and acquaintances situated throughout various parts of the nation, as well as in Canada and Europe;

2. This Staff held Dr. Hunter Holmes McGuire in the highest esteem, and recognized his virtues of gentle kindness, sobriety, tolerance, fair dealing, sterling character, gentlemanly conduct, wisdom, professional ability, and professional ethics;
3. The deepest sympathy of the members of this Staff, individually and collectively, is hereby extended to the widow of our deceased friend and associate, and to his son and daughters and the other survivors, all of whom with us mourn his loss;
4. This Resolution be spread upon the minutes of this meeting, and thereby be made a permanent record in memoriam to the said Dr. Hunter Holmes McGuire, and copies of this Resolution be sent to the members of Dr. McGuire's family.

Dr. Philip Williams Boyd,

Prominent physician of Winchester, died of a heart attack on February 17th. He was stricken while attending a Rotary Club luncheon. Dr. Boyd was seventy-four years of age and a graduate of the University College of Medicine, Richmond, in 1898. He had been a life-long resident of Winchester and had been associated with the surgical staff of Memorial Hospital since its establishment nearly half a century ago. He served as president of the Virginia State Board of Medical Examiners for many years and had always taken a prominent part in medical activities in the state and in the Shenandoah Valley. Dr. Boyd was a former president of the Shenandoah Apple Blossom festival and engaged extensively in fruit growing. He had been an active member of the Medical Society of Virginia for fifty years, having served as a vice-president and on numerous committees. He was awarded his "Fifty Year Certificate" for practice at the 1948 meeting and made a Life Member. His wife and two daughters survive him. A brother is Dr. John O. Boyd of Roanoke.

Dr. Rufus Speed Kight,

One of Norfolk's best known physicians, died February 12th after a short illness. He was a native of North Carolina, although he had lived most of his life in Norfolk, and was seventy-two years of age. Dr. Kight graduated in medicine from the University of Maryland in 1900. He was for many years coroner for the city of Norfolk. He was a past president of the Norfolk County Medical Society, an honorary member of the American College of Surgeons, and had taken an active part in the Virginia Obstetrical and Gynecological Society. Dr. Kight had been a member of the Medical Society of Virginia for forty-seven years. His wife and four children survive him.

Dr. Isham Keith Briggs,

Physician and surgeon of South Boston, died February 8, after a week's illness attributed to a heart ailment. He was sixty-seven years of age and a graduate of the former University College of Medicine, Richmond, in 1904, later taking post-graduate work at the Mayo Clinic in Rochester, Minn. He joined the Medical Society of Virginia two years later. He was a medical examiner for the local draft board in both world wars, was a former president of the South Piedmont Medical Society, and active in civic and religious affairs. His wife and a daughter survive him.

Dr. Charles Bickley Fox,

Well known physician of Monterey, died January 26th, having been in ill health for some time. He was seventy-six years of age and a graduate in medicine from the University of Virginia in 1899. Dr. Fox had practiced in Monterey except for a short period since his graduation and for eight years served as its Mayor and also as county coroner. He was a Mason and had been a member of the Medical Society of Virginia for forty-eight years. Two daughters and a son survive him.

Dr. Irving Lee Chapman.

Dr. Chapman had been ill since New Year's day when he suffered a stroke while attending the Sugar Bowl game in New Orleans. He attended the Baltimore Medical College from which he graduated in 1904, and had been a member of the Medical Society of Virginia since 1915. His wife and a son survive him.

The members of the Norfolk County Medical Society feel that its records should contain in permanent form the resolutions on its beloved member, Doctor Irving Lee Chapman, who died at a local hospital January 20, 1949.

Doctor Chapman, affectionately called "Pappy" by his younger associates, had practiced in South Norfolk for

thirty-five years (he had practiced ten years elsewhere previously) doing an enormous general practice and was said at one time to have delivered more babies than any other doctor in Virginia. Doctor Chapman's sincere kindness, sympathy and devotion to his profession endeared him to countless thousands of patients in a manner seldom seen in the present day. He served South Norfolk as Health Officer without pay from 1922 until his death.

He did not limit his interest in medicine but was a member of numerous fraternal and civic organizations and all his fellow men loved his jovial company and disposition.

We respect him as an outstanding physician; we honor him as a citizen devoted to his community and we cherish his memory as a friend and associate.

BE IT RESOLVED that a copy of this resolution be recorded in the minutes of the Norfolk County Medical Society, and a copy be sent to the family as well as to the VIRGINIA MEDICAL MONTHLY.

(Signed)
C. L. HARRELL
M. S. HERRINGTON
G. W. SIMPSON

Dr. Clifford Harry Beach,

Well known physician of Richmond, died February 16th after a brief illness. He was forty-five years of age and a graduate of the Medical College of Virginia in 1928, having previously graduated in pharmacy. Dr. Beach was for sometime associated with McGuire Clinic and was medical director of the Home Beneficial Life Insurance Company. He had been a member of the Medical Society of Virginia for fifteen years. His wife and a daughter survive him.

Dr. William Douglas Macon

Was born at Clover Hill, Keswick on April 17, 1869 and died on December 30, 1948 at the age of seventy-nine years. He received his bachelor's degree from Randolph-Macon College in 1888. After seven years of teaching in elementary schools he entered the University of Virginia Department of Medicine from which he received the degree of Doctor of Medicine in 1897. After an internship at the Willard Parker Hospital in New York City he returned to Charlottesville and entered general practice with increasing emphasis on obstetrics. He became Clinical Instructor in Anesthesia in his alma mater in 1904, Clinical Instructor in Anesthesia and the Practice of Medicine in 1905, and Professor of Obstetrics in 1923, resigning in 1924 when the Department of Obstetrics and Gynecology was reorganized. After a severe illness a few years later he began to limit his practice and in recent years had completely retired. He was a member of the Albemarle County, the Virginia State, the American and the Tri-State Medical Associations, as well as the Alpha Omega Alpha Society. He served several terms as Health Officer for the City of Charlottesville.

As a physician Dr. Macon typified the ancient virtues of the profession. He was never known to refuse a call no matter what the difficulties or inconvenience. He possessed sound judgment and technical skill. During his early practice he was a pioneer in Virginia in the use of intubation in laryngeal diphtheria. Later he became increasingly the obstetric consultant for a large area before the days of highly developed hospital obstetrics. As a teacher of obstetrics he was outstandingly successful. As a personality he was distinctive. From his earlier education and from his years of non-medical teaching, he retained an extraordinarily developed curiosity about all intellectual matters, resulting in wide and catholic reading. His level of cultivation in history, particularly the history of Virginia, general literature, and the arts was amazing. He was the best-read man among the physicians of Albemarle County. Following his retirement he regularly attended as an auditor classes of the University of Virginia College of Arts and Sciences both in undergraduate and graduate subjects. Coupled to his intellectual interest was a ready wit that shot bright shafts of light into what might become a dull discussion. As a friend he was always kind, always cheerful, always outreaching, always stimulating. When new and younger men entered the profession in Charlottesville, he was the first to make them feel truly welcome, the one upon whom they could earliest feel they could rely as a friend.

The Albemarle County Medical Society and the University of Virginia Medical Faculty wish to express their unanimous feeling that in Dr. Macon's death they have lost an able and beloved member, and that the community has lost an irreplaceable citizen. They desire further to place this record on their minutes and on the pages of the Virginia Medical Monthly and to send it to his family.

ALBEMARLE COUNTY MEDICAL SOCIETY
AND
MEDICAL FACULTY OF THE UNIVERSITY OF VIRGINIA
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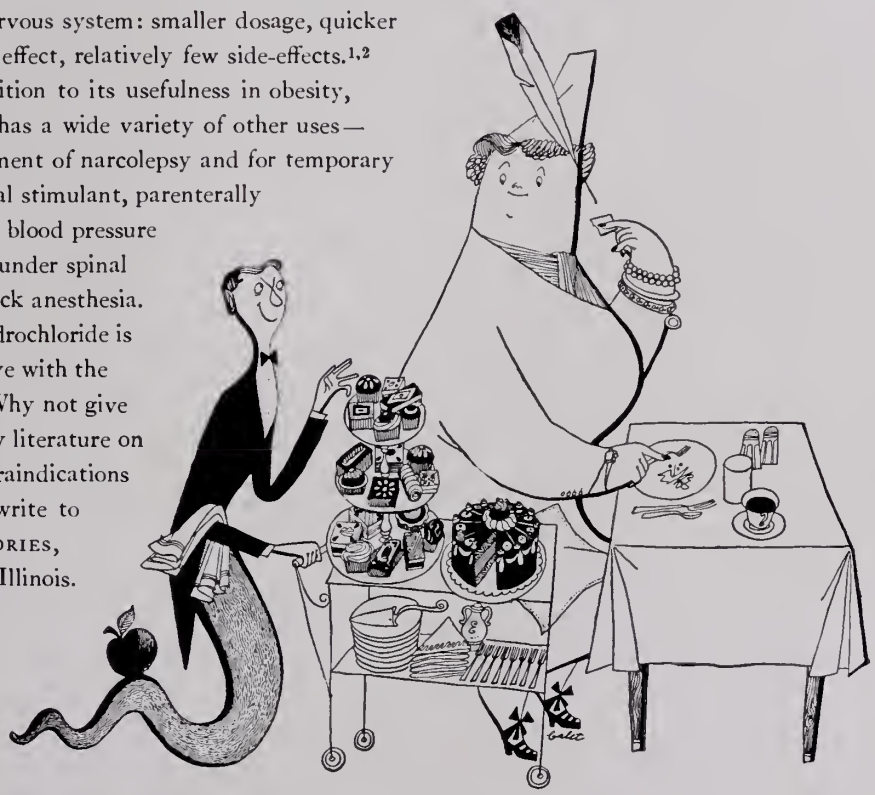

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1. Ivy, A. C., and Goetzl, F. R (1943), d-Desoxyephedrine; A Review, War. Med., 3:60, January.
2. Davidoff, E. (1943), A Comparison of the Stimulating Effect of Amphetamine, Dextroamphetamine and Dextro-N-Methyl Amphetamine (Dextro-Desoxyephedrine), Med. Rec., 156:422, July.

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V 76 # 4

CONTENTS

Guest Editorial. Harvey B. Stone, M.D. ---------- 159

An Outline of Proposed Experiments and Observations for the Further Investigation of Poliomyelitis. James H. Smith, M.D., Richmond, Va. ---------- 161

Spontaneous Hemopneumothorax—Report of Two Cases. C. Lydon Harrell, M.D., F.A.C.P., F.C.C.P., Norfolk, Va. 167

Treatment of Carcinoma of the Esophagus. Frank Philip Coleman, M.D., Richmond, Va. ---------- 170

Results of 1000 Examinations in the Bessie Dunn Miller Cancer Detection Center. William E. Bray, Jr., M.D., Charlottesville, Va. ---------- 174

Echinococcic Cyst of the Liver. H. L. Skinner, M.D., Robert R. Smith, M.D., Stapleton, N. Y. ---------- 178

Subcutaneous Plasma Infusion in Convalescent Children. Isa C. Grant, M.D., Catawba Sanatorium, Va., Malene Grant Irons, M.D., Greenville, N. C., John S. Morris, M.D., Lynchburg, Va., and J. C. Forbes, Ph.D., Richmond, Va. ---------- 182

Ovarian Agenesis (Turner's Syndrome) Report of a Case With Post Mortem Findings. James M. Moss, M.D., and Karl F. Menk, M.D., Charlottesville, Va. ---------- 186

Continued on page 6.

Annual Meeting
Medical Society of Virginia
Old Point Comfort,

April, 1949

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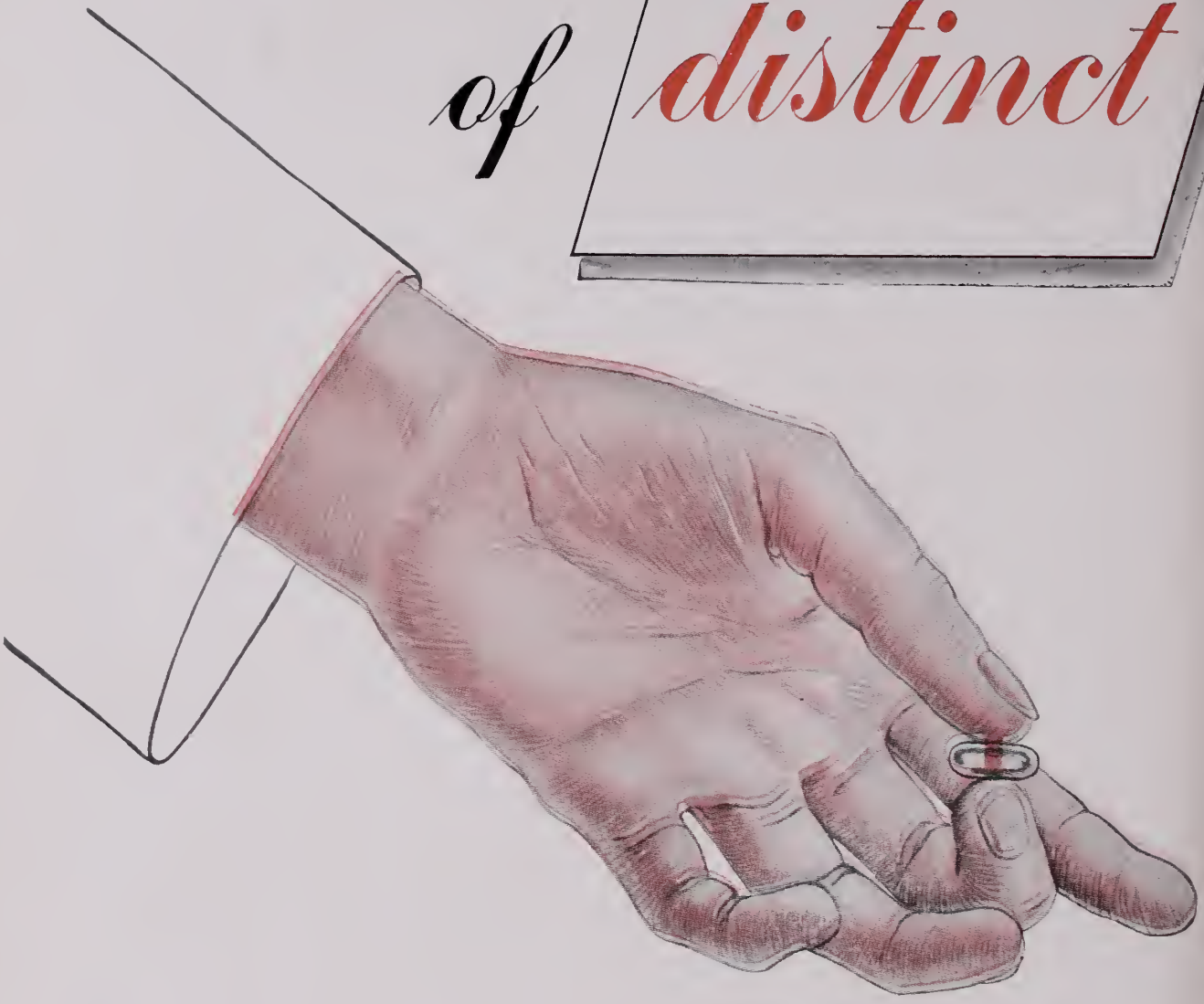

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*Magladery, J.: Therapeutic Conference, The Treatment of Epilepsy. Bull. Johns Hopkins Hosp., 82:609, (June) 1948.

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GUEST EDITORIAL

Politics and Medicine

AS facing the powerful drive of elements in our national life pressing for compulsory federal control of medical matters, the medical profession is in a bad position. The administration's politicians know the vote-getting value of appeals to a public already conditioned to government assistance in many forms. The labor leaders know they will secure their own position by working for the so-called free medical care for their followers. If we are to combat successfully such forces, we must clarify our own thinking, develop a generally acceptable constructive program, and then agree, in spite of minor differences over details, to unite wholeheartedly behind the movement that we believe is necessary to save medicine from disaster.

To many thoughtful doctors, the most serious implication in the drive for compulsory federal control of medicine is the further impetus it would give toward changing our form of government to Stateism, with its subjection of the life of the citizen to an all-powerful controlling political structure. It is to be hoped resistance to such tendencies will still find support from millions of Americans. But it is not to be forgotten that recent experience has shown that for other millions an expected personal benefit outweighs many theoretical objections of political philosophy.

It would seem wise to argue our case on the basis that we can offer a scheme of things that will give the general public better actual medical care than they would get under the proposed federal compulsory plans. Can we propose such a concrete plan? I believe we can.

Here in Maryland there is now in operation a system that was developed at the suggestion and largely through the efforts of the State Medical Society. In brief, it provides full medical service for the indigent and the medically indigent, by the doctor of their own choice, and pays the doctor from state welfare funds. There are of course adequate protective and administrative details that need not be discussed here. Suffice it to say that the plan has been operating in the Maryland counties for two or three years to the general satisfaction, and that a parallel plan is now beginning to operate in Baltimore City. The great advantages of this plan are that it keeps the whole transaction local—the choice of doctor, the care of patients, the certification by the Welfare Department and so on. Furthermore, its operation so far has been financially sound and there is little or no evidence of efforts at abuse of the plan. Finally it covers the needs of a segment of the population not even contemplated in the present proposed federal plans, in spite of their vaunted value to the poor and needy.

The next step is the adoption in every state of some form of voluntary prepayment sickness insurance that will adequately protect, as far as that is possible, the low income groups against the financial consequences of serious illness. It is not necessary, or even desirable, that these plans should be identical in all the states. It is necessary, if we are to counter effectively the claims of our opponents, that each of these plans should really provide security against the monetary costs of professional

services in serious illnesses, and that the plan should have the support of a substantial majority of the practicing profession.

The proposals herewith offered are not visionary or impractical. They have had actual field trials and are standing up. They would preserve all that is valuable in our present excellent system of medical care, and largely remove the ground for criticism based on financial and distributional factors. They would avoid the serious and unescapable objections to federal compulsory control and would actually do better the things that the proponents of federal compulsory control claim for their system.

Finally, the need of medical education for better financial support is real and urgent.

Again, this is not a field that should be surrendered to the national government. There are two basic objections to such a surrender. First, there is no certainty of continuity of such support. No Congress can bind its successor to a continuing financial commitment. With a change of administration, or of political philosophy, with the coming of financial disaster or military stress, it could easily happen that support on which the schools had come to rely was suddenly withdrawn. The effect can be imagined! The second difficulty is that with federal subsidy, inevitably goes federal control. This is a necessary and unavoidable condition. No matter what protective clauses are written into the appropriation acts, or how sincere the assurance of the present administrators of such acts may be, there is no valid protection against serious interference next year, or by the next administration. A single example of how such interference may arise is easily provided. The present administration is committed to the so-called civil rights or anti-discrimination program. This admittedly means that if a system of federal assistance to medical schools is set up, these schools cannot reject qualified students for reasons of color, sex, race or religion. Whether or not one agrees with this idea, there is no escaping the dilemma in which schools in a large section of this country would find themselves. They would either have to do violence to the long established social customs and traditions of their communities or renounce the support they badly needed, and that schools elsewhere were receiving. An even more serious objection is the pressure to admit undue numbers of students, beyond the capacity of the school adequately to care for. Such pressure has already begun to appear with scholarship proposals. It is true that Mr. Ewing says that the civilian approving bodies, such as the Council on Medical Education and Hospitals of the American Medical Association, the Association of American Medical Colleges, etc., could check such tendencies by withholding approval. But, I ask you, what would be the public position of such bodies if they disapproved a school for yielding to the insistence of the government that more doctors are needed, and that the government was putting up the money for them?

Here again is a field that we should not yield to government preemption. In the first place it is our responsibility. We, as a profession, are most closely concerned that medical education should neither be starved nor subsidized. It is my belief that organized medicine should take up this challenge not for one needy school, nor for several, but for all schools on some fair and adequate basis. It is my hope that this will soon be done, and that all of our profession will give full and enthusiastic support to such a movement.

HARVEY B. STONE, M.D.

18 West Franklin Street,
Baltimore, Maryland.

EDITOR'S NOTE: Dr. Stone is associate professor of surgery at Johns Hopkins University School of Medicine.

AN OUTLINE OF PROPOSED EXPERIMENTS AND OBSERVATIONS FOR THE FURTHER INVESTIGATION OF POLIOMYELITIS

JAMES H. SMITH, M.D.,*
Richmond, Virginia.

The pressing problem in poliomyelitis is the paralytic feature. If this is viewed in relation to the subject as a whole, it stands out against a background of certain concepts which, though they may not be entirely proven, are quite generally accepted. The virus is very widespread and immunity is very general. Thus the newborn becomes endowed with a temporary immunity, and later exposure to the infectious agent results in subclinical immunization of a large proportion of the population. Also, immunity may be acquired by having clinical poliomyelitis without paralysis, and this is more common than the paralytic form. As a net result, though immune persons may become carriers and exposure is general, relatively few individuals develop paralytic poliomyelitis even under epidemic conditions. At the same time, (to say nothing of the mortality) the vast concern over the paralytic features when they do occur makes it desirable to explore any reasonable inquiry into the pathogenesis of paralysis.

Hypothesis can rarely serve any useful end except as a stimulus to some form of research. That is the hesitant but hopeful purpose here. No investigator would undertake the research unless the idea seemed reasonable and negative results would therefore be of some value. Positive results would be of more value.

In the attack on the unsolved problems of poliomyelitis, for a long time many have regarded the seasonal incidence as a reasonable starting point. The influence of season might be operative in any one or more of several ways. It might be on the virus, on and through a vector including as a vector the human carrier, or on the susceptibility of the host. So long ago as 1931 Aycock said there was evidence to suggest that some discrepancy in physiologic adaptation to climate and season may be a factor in determining clinical poliomyelitis and he has used the phrase "autarceologic resistance" to indicate successful avoidance of such a discrepancy. The following notes** embody an attempt to apply this concept. It would seem that early practical ends would be met by noting in experimental work the time of the year, the extent of exposure to sunlight, and the atmospheric temperature. The secondary questions dealing with temperature and solar radiation as independent variables would be taken up only if positive evidence was obtained of a direct influence of the summer season on the host. In any subsequent consideration of the influence of independent variables, data of the United States Weather Bureau would be available for at least some localities.

Hypothetical Pathogenesis:

Active virus + lack of immunity + a central nervous system conditioned by the climatic and physiological factors tending toward "Heat Disease" results in paralytic poliomyelitis.

The phrase "tending toward 'Heat Disease'" predicates physiological changes short of the pathological conditions in heat prostration, heat exhaustion, heat stroke, and sunstroke.

A. Virus intravenously in monkeys rarely causes infection. "If, however, an aseptic inflammation has been provoked in the meninges by the injection of foreign protein intraspinally, much smaller doses intravenously injected are allowed to pass through into the spinal fluid and cause experimental poliomyelitis." (Amoss, H. L., and Aycock, W. L.: Acute Poliomyelitis, Tice, F.: Practice of Medicine, Vol. 5, page 335; Flexner, S., and Amoss, H. L.: *J. Exper. Med., 25*: 525, 1917).

"Infection by the nasal route is also rendered much easier by similar preparation." (Amoss,H. L., Taylor, H. D., and Witherbee, W. D.: *J. Exper. Med., 29*: 115, 1919). "Normal monkey or horse

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Professor of Clinical Medicine, Medical College of Virginia.

**The marking of paragraphs by letters conforms to a draft of the material which certain students of the subject have been kind enough to criticize in personal communications. The omissions are of points which, though considered to be pertinent, are less immediately so. A rearrangement of the paragraphs might result in a more logical, certainly a more conventional, presentation. But without controlled studies no presentation could be conclusive or convincing, and the sequence used reflects an influence of some of the personal communications referred to above.

serum, isotonic salt solution, and Ringer's and Locke's solutions, when injected into the meninges, promote infection with the virus of poliomyelitis introduced into the blood, the nose or the subcutaneous tissues." (Flexner, S., and Amoss, H. L.: *J. Exper. Med., 25*: 525, 1917).

B. Effects of heat, light, or the heat of light include an irritant effect on the brain and cord.

C. "That, indeed, exposure to intense light is capable of producing a localized hyperthermia of the central nervous organs has been borne out by the investigations of Hill and his co-workers." (Sundstroem, E. S.: The Physiological Effects of Tropical Climate, *Phys. Rev., 7*: 320, 1927).

D. "It has been thought that sunlight impinging directly upon the head may raise the temperature in the meninges and brain, because hemorrhages have been found in these structures after death associated with excessive exposure to sunlight. Aron (*Philippine J. Sc.*, Med. Section, *6*: 101, 1911) in the Philippine Islands . . . found that monkeys fully exposed to bright sunlight succumbed in one to two hours, hemorrhages of the brain being found at autopsy, but that if only the head was exposed the animals survived long periods of insolation. Apparently the total heat load was the lethal factor rather than heating of the cranium." (Blum, Harold F.: Physiological Effects of Sunlight on Man, *Phys. Rev., 25*: 521, July, 1945).

E. _____

F. In the monkey, as compared with intravenous injection of virus, infection is much more easily produced by other routes, including the nasal route. "Hill (*J. State Med., 39*: 683, 1931; *Quart. J. Exp. Physiol., 23*: 35, 1933) believed he had shown that long infra-red radiation impinging on the skin caused swelling of the mucous membranes of the nose ('nose closing effect') . . . but ample studies have not confirmed these findings. Nose closing appears to result from heating of the skin by any means, including sunlight." (Blum, H. F.: *Phys. Rev., supra cit.*, p. 512; Dufton, A. F., and Bedford, T.: *J. Hyg., 33*: 476, 1933).

Could heat, through the nose closing effect, facilitate infection by the nasal route, or could it increase the number or carrying capacity of carriers?

G. _____

H. _____

I. There are pathological changes in the brain and spinal cord in heat stroke . . . and poliomyelitis . . .

J. The seasonal incidence of "Heat Disease" and poliomyelitis is similar.

K. The factor of fatigue enters into the etiology of heat stroke, and, some observers think, in poliomyelitis. (As to exercise and heat stroke, heat exhaustion, and heat prostration, Borden, D. L., *et al.*: Statistical Study of 265 Cases of Heat Disease, *J. A. M. A., 128*: 1200, Aug. 25, 1945), Lumsden, in an analysis of 133 cases of poliomyelitis found "unusual physical stress or mechanical injury within three weeks prior in 21 cases." (Lumsden, L. L.: An Epidemiological Study of Poliomyelitis in Mississippi in 1941, *Pub. Health Rep., 57*: 729, May 15, 1942).

L. The personal characteristics believed to contribute to increased susceptibility to heat stroke and to poliomyelitis are expressed in the following:

Heat stroke: "It has been commonly noted that heat victims tend toward obesity" and the author's observations confirm this in Environment and Fatal Heat Stroke—Analysis of 157 Cases Occurring in the Army in the U. S. during World War II, by Elizabeth Schickele: Environmental Protection Section, Research and Development Branch, Military Planning Division, Office of the Quartermaster General, (*Military Surgeon, 100*: 235, March, 1947).

Poliomyelitis: Amoss and Aycock refer to "the common clinical impression" that these children are "strong and healthy", "fine specimens", i. e., it is they who are of the type lacking "autarcesiological resistance." (Tice, Vol. 5, page 343). "Certainly it has long been noted that the victims of poliomyelitis are commonly well-nourished, big children." Rather than that preceding illness, poor health, poor nutrition increase susceptibility, "the evidence would point to an opposite effect." (Wilson, J. L.: Oxford Medicine, Vol. 5, p. 124 (14)).

M. . . . As compared with the age incidence of infantile paralysis, the victims of heat exhaustion at Fort Eustis showed a larger percentage contributed by the younger troops: 53% 18-21; 25% 22-30; 22% over 30, but the age groups of the soldier population of the camp were not given. (*J. A. M. A., 128*: 1200, Aug. 25, 1945, *supra cit.*).

N. Personal characteristics: In Mississippi

Lumsden (*supra cit.*) found in 93 cases:

General health: Good, 63; fair, 18; poor, 12.

Body structure: Thin or poor, 19; marked over-development, 2; normal, 72.

Physical activity: Over, 22; under, 6; normal, 65.

There were no comparable figures for children not having poliomyelitis.

O. Seasonal incidence of poliomyelitis: "In an epidemic area in the northern part of the U. S. usually a few cases appear in June, rather definite evidence of an epidemic in July, etc. . . . In the Southern States the curve of the epidemic shows a tendency to start and end one or two months earlier." (Wilson, Oxford Medicine, Vol. 5, p. 124 (16)).

P. Mechanisms of Defense. (Amoss and Aycock, Tice, Vol. 5, p. 341).

1. Neutralization by nasal secretions.

2. As illustrated by the need to provoke inflammation by the injection of foreign protein intraspinally in order to cause infection by intravenous injection of virus.

3. Immune bodies in the serum.

"The chances . . . supposing an active virus to be present, would be a function of the percentage product of the three major factors." (Amoss and Aycock, *supra cit.*) "The evidence is pretty conclusive that the virus itself is very widespread, at least in epidemic times. . . . No direct evidence whatever has been offered which would indicate any particular insect." (Wilson, Oxford Med., Vol. 5, p. 124 (18)).

"There seems to be little or no tendency for the disease to occur in institutions or to spread through the inhabitants of an institution. There is no evidence of any spread from school infection." (Brain, W. R.: Oxford Med., Vol. 6, p. 371).

Q. Rasmussen and his co-workers found that thiamine deficiency seemed to increase the resistance of mice to the virus. (*J. Infect. Dis., 74,* 41, 1944), but this did not hold with monkeys. (*Proc. Soc. Exper. Biol. & Med., 58*: 42, January, 1945). The question of deficiency, especially of the vitamin B complex, might have to be considered in connection with experiments on the effect of heat and light in the etiology of poliomyelitis.

R. Experiments on monkeys proposed:

1. To determine whether the effect of heat and light is comparable to the injection intraspinally of foreign protein in rendering the animal susceptible to infection by intravenous injection of the virus.

2. To determine whether the effect of heat and light by "nose closing", or otherwise, increases susceptibility to infection by virus by the nasal route.

3. To determine whether heat and light increase susceptibility to infection by the gastro-intestinal route.

4. Other correlated experiments: (a) Exercise; (b) Nutrition; (c) Age.

S. Observations proposed:

Of the physical activities and exposure to heat and light of victims of poliomyelitis prior to developing the disease.

T. The appearance of two cases in a community might be regarded as an indication of a significant prevalence of active virus in that area. If the ideas herein embodied receive any support from experimentation and observation, some public health officials might care to set up a program designed to test the efficacy of suitable restriction of physical activity and of exposure to heat and light as a preventive measure against the development of new cases.

U. In the consideration of the effect of heat and light, secondary questions would arise as to the relative influence of temperature, humidity, and wind as in the problem of heat effects generally, and the problem of total heat load *vs.* light rays of special wave length.

V. The idea is that the over-wrought sergeant in *A Walk in the Sun* should have developed poliomyelitis if the active virus happened to be present in his mucous membranes, and if he was not immune.

W. Hypothetical Pathogenesis:

Active virus + lack of immunity + a central nervous system conditioned by the climatic and physiological factors tending toward "Heat Disease" results in paralytic poliomyelitis.

SUPPLEMENTARY NOTES

X. In tracing the development of an epidemic it would seem that in the chain of transmission, "reported cases" would lag behind their starting point in another previous case by as much perhaps as three weeks; representing the sum of time required for (1) Patient A to transmit to Carrier B, (2) Carrier B to come into contact with Patient C; (3) the incubation period in Patient C; (4) the reporting

the case of Patient C. Thus, in thinking of the "peak week" or the "median case" (not necessarily the same in time) perhaps there would be a throw-back of three weeks to the source of infection for those cases; and in thinking of the timing of the "susceptibility of the host" (Patient C), there would be a throw-back of somewhat less than three weeks, the sum of (1) and (2). The time for "date of onset" in Patient C would be represented by the sum of (1) (2) and (3).

Y. An epidemic in a given area may start and end after the summer solstice (usually a relatively minor epidemic) but an epidemic starting before the summer solstice (as major epidemics usually do) rarely has been observed to begin to decline before the summer solstice.

Z. As reported by J. R. Paul, W. P. Havens, Jr., and C. E. Van Rooyen: In Egypt poliomyelitis has not appeared in epidemic form from 1933-1942. It is more of an all-year round disease, "with maximal incidence in March, April and May, and again in October." (Poliomyelitis in British and American Troops in the Middle East, *Brit. Med. J., 1*: 841, June 24, 1944). Likewise, pyrheliometric measurements reveal a variation in seasonal intensity that is unusual* for the north temperate zone, with a maximum in January and a minimum in June, April being of the same order as October . . . (Smith, J. H.: The Influence of Solar Rays on Metabolism, *Arch. Int. Med., 48*: 907, Nov. part 2, 1931).

AA. James F. Rinehart reported as follows: "Summary: Epidemiological considerations suggest that there is some predisposing factor in the host which increases his susceptibility to poliomyelitis. Although the virus is probably widely disseminated during epidemic periods relatively few develop the disease. Studies of patients early in the course of the illness reveal the common occurrence of salt depletion and hemo-concentration. It is suggested that this may be a factor predisposing to virus invasion and the development of the disease. The decided summer incidence of poliomyelitis, and the frequent association of the disease with antecedent strenuous physical activity are in harmony with this concept. The active child might be particularly liable to lose significant amounts of salt through sweating in hot weather. Further clinical investigation and appropriate animal studies in this field are clearly indicated. Attention to salt and water metabolism would appear desirable in the management of cases." (Salt Metabolism in Poliomyelitis, *J. Nerv. & Ment. Dis., 99*: 825, 1944). Salt as a possible preventive seems implied.

BB. "The mice acclimated (for three weeks) to 13° C. and held at that temperature after inoculation never showed symptoms of paralysis in less than 11 days, with 13 days being required to establish 50 per cent mortality. In contrast to this, mice adapted to 22° C. and held at that temperature after injection showed 50 per cent mortality at the end of seven days, and mice acclimated to and held at 32° C. began showing symptoms and dying as early as the fifth day." (Holtman, D. F.: The Effect of Environmental Temperature on Mouse Susceptibility to Poliomyelitis Virus, *Science, 103*: 137, Feb. 1, 1946).

It should be noted that similar results have been obtained in other infectious diseases. (Aycock, W. L.; Lutman, G. E., and Foley, G. E.: Seasonal Prevalence as a Principle in Epidemiology, *Am. J. Med. Sc., 209*: 395, March, 1945).

CC. According to Petersen, as compared with other mutually transmitted infections, poliomyelitis exhibits a difference in statistical behavior best explained by weather conditions, and of these light is the most probable factor in view of the regularity in its seasonal variation—"The conclusion seems to be that the steepness of the poliomyelitis epidemics depends on the absolute intensity of the sunlight at the equinox (autumn). . . . The effects of the seasonal variation of the light . . . seems to be . . . a general lowering of the resistance. . . ." (Petersen, H.: The Relation between Light and the Epidemic Curve of Poliomyelitis with an Attempted Epidemic Theory Explaining Epidemic Waves as a Statistical Consequence of the Mechanism of Infection, *Acta Med. Scand., 107*: 282 and 310, 1941).

DD. Negative results were obtained in an investigation designed to determine "whether or not cold weather or changes from warm to cold could . . . render infection with the virus of poliomyelitis difficult." (Sabin, A. B.: Influence of Climate on Susceptibility of Monkeys to Intranasal Infection with Poliomyelitis Virus, *Proc. Soc. Exper. Biol. & Med., 34*: 686, June, 1936).

EE. Greater exposure to heat and light of the

*This comparison is subject to question pending further examination.

(a) male as compared to the female and of the (b) rural as compared to the urban resident, generally is to be expected and would accord with the relative incidence of poliomyelitis in these groups.

FF. The relative immunity of the Negro to sunburn and heat effects generally, accords with the lower incidence in this race as compared to the whites.

GG. Aycock thought there was evidence to suggest "that some discrepancy in physiologic adaptation to climate and season may be a major factor in determining" clinical poliomyelitis. (Aycock, W. L.: Immunity in Virus Diseases, *J. A. M. A., 97*: 1199, 1931).

HH. ". . . heat exhaustion or heat collapse . . . may require several weeks for its full development; but under the conditions of hard work and extreme exposure collapse may occur in less than an hour." (Kammer, A. G.: Heat Sickness, Tice 6, 383).

The seasonal incidence of poliomyelitis may reflect a cumulative influence on individuals of oncoming and fully developed summer.

II. Poliomyelitis has been spoken of as a disease of warm weather in cool climates. If there are cumulative effects in summer and if they are greater in proportion to lack of heat and light in winter, these effects should be greatest in the temperate zone (where poliomyelitis is most prevalent). It is generally known that winter is warm in the Tropics and cold in the Arctic, but as to summer in the temperate zone it is not as generally known that the caloric value of solar radiation in mid-summer is as great at Fairbanks, Alaska as at Miami, Florida. (Hand, I. F.: Review of United States Weather Bureau Solar Radiation Investigations, *Monthly Weather Review, 65*: 415, December, 1937. See also Smith, J. H.: An Index of Solar Radiation in the Temperate Zone, *Tr. Am. Clin. & Climatol. A.* (1940) *56*: 199, 1941).

JJ. When a sterile meningitis had been provoked in monkeys, dyes injected intravenously colored the spinal fluid, indicating passage through the choroid plexus ("the blood—C. N. S. barrier"), but in the normal monkey and in monkeys in the preparalytic and paralytic stages of poliomyelitis, though the dyes colored gray matter, including the anterior horns of the spinal cord, indicating passage by channels other than the choroid plexus, there was little tendency to color the spinal fluid. (Harmon, P. H., and Krigsten, W. M.: Tests for the Blood—C. N. S. Barrier in Experimental Poliomyelitis, *Proc. Soc. Exper. Biol. and Med., 36*: 240, 1937. See also Faber, H. K.: Visualization of Preparalytic Lesions of Poliomyelitis by Intravital Staining, *Proc. Soc. Exper. Biol. and Med., 35*: 10, 1936).

KK. Experiments on monkeys—proposed: To determine whether the effect of heat and light is comparable to the injection intraspinally of foreign protein in rendering the spinal fluid subject to coloration by intravenous injection of dyes, with details planned to determine:

(1) Whether there are indications of a cumulative influence of solar radiation as shown by variations in dye coloration of the spinal fluid when the experiment is repeated at intervals in an animal subjected to progressive exposures comparable to those encountered in on-coming and fully developed summer.

(2) Whether there is dye coloration of the spinal fluid under conditions of more "extreme exposure".

These data might facilitate work with virus in monkeys.

Recasting this material, at least four possible lines of investigation emerge.

1. Virus infection of monkeys.
2. Other experimental work with animals.
   (a) Virus infection of mice.
   (b) Dye injection of monkeys.
3. Salt metabolism in patients having poliomyelitis.
4. Field investigations of certain conditions of environment and activity prior to development of the disease.

These various approaches obviously require various techniques and facilities. By arrangement with colleagues, chiefly at the Medical College of Virginia, there is prospect of carrying out the work under the second and third headings. As to the first heading, since it is not now apparent just where or when this work can be done, it has been felt that this form of publication is justified on the ground that it might engage the interest of investigators specially qualified to work with virus in monkeys. Moreover, the value of results obtained from any of the work outlined could be better weighed if there should be available for comparison results of similar studies made elsewhere. Indeed, with

regard to clinical studies on salt metabolism, and the field studies under the fourth heading, very probably it would be necessary to seek cooperation in areas where the prevalence of the disease offered opportunity for the studies.

Still another benefit is anticipated from putting the material in its present form. The details presented are almost certainly faulty in some respects and criticism should help to furnish any modification or redirection needed for arriving at proof or disproof of the basic idea. It is fully to be expected that as the work progresses such modifications will be made by the group at the College. Already, thanks are due for constructive suggestions made by Dr. William B. Porter, Professor of Medicine; Dr. Wyndham B. Blanton, Professor of Clinical Medicine; and Dr. John Bell Williams, Director of the McGuire Clinic and St. Luke's Hospital.

Marriage Good for Long and Healthful Life.

Marriage is a good prescription for a long and healthful life, statistics show.

Writing in the March issue of *Hygeia,* health magazine of the American Medical Association, Rose and Irv Leiberman, Cleveland, Ohio, point out that the odds are against bachelors, spinsters, and the widowed and divorced living as long as married persons. In this country, for each 100 married men 20 years of age and over who die, 141 single men die, they say. Single women fare better; for every 100 married women of 20 and over, 117 single women die.

Married persons also have better nerves, are less subject to mental disease and mental breakdown, and have a lower mortality rate from heart disease, cancer, tuberculosis, accidents, and suicide, they emphasize. Marriage reduces man's chance of dying by accident by more than half throughout most of his life, and the chances of the single man dying of tuberculosis are two to three times that of the married man, according to the article. Tuberculosis deaths are three to four times as numerous among widows under 35 as among the married, and the chances of death from breast cancer are two-thirds greater among single women than among married.

The difference in mortality rates may be explained by the theories that marriage promotes better and more rational habits of eating, sleeping, and recreation, causes men and women to avoid hazardous adventures, violent sports, and sources of germ infection, and elicits mutual concern over health which results in consulting a doctor before illness becomes advanced, the authors suggest.

The Leslie Dana Gold Medal for 1948,

An annual national award for outstanding achievement in the prevention of blindness and the conservation of vision, was presented on March 25 at a dinner in St. Louis to Dr. Lawrence T. Post of that city. Dr. Post, Professor of Clinical Ophthalmology and head of the Department of Ophthalmology at Washington University Medical School, was selected for this honor by the St. Louis Society for the Blind. The award is given upon the recommendation of the Association for Research in Ophthalmology.

SPONTANEOUS HEMOPNEUMOTHORAX—REPORT OF TWO CASES

C. LYDON HARRELL, M.D., F.A.C.P., F.C.C.P.,
Norfolk, Virginia.

My purpose in reporting these cases is to point out the relative rarity of the condition, the importance of early diagnosis, and the importance of removing blood from the pleural space when it is found.

Bloody fluid in the pleural cavity is a fairly common occurrence in conjunction with such diseases as malignancy of the pleura or lung; in pulmonary tuberculosis, especially those cases being treated by artificial pneumothorax; in Hodgkin's disease; and in traumatic injuries of the chest, as stab wounds, bullet wounds and war injuries. Spontaneous pneumothorax without blood or fluid is a fairly common occurrence, but spontaneous pneumothorax with gross blood in the pleural cavity in an apparently healthy individual is very uncommon—fifty odd cases being recorded.

CASE 1.—Mrs. W., white housewife, age 42, in apparently good health, on February 12, 1948, while shoveling snow from the sidewalk, was taken with soreness in the left chest. However, it was not sore enough in the beginning to stop her from working. The pain continued to grow more severe; she became short of breath. After about eight hours of suffering, she called her physician, Dr. W. S. Hadley. He found her in so much distress and pain that he gave her a "hypo." of morphine and sent her to a hospital where she was put in an oxygen tent.

I was asked to see her the next day, which was February 14. I found the patient quite sick, cyanotic, complaining of pain in the left chest, pulse 100, poor volume, blood pressure 130-90. The left chest lagged on inspiration; it was flat to percussion over the lower half. Tactile and vocal fremitus were absent over this area; hyper-resonant above. The heart was pushed to the right. Exaggerated breath sounds with a few squeaking rales were heard over the right chest, probably compensatory.

Diagnosis: Collapsed Lung with pleurisy with effusion.

An x-ray of her chest revealed the left lung entirely collapsed, heart pushed to right, and left chest half full of fluid. On account of the respiratory distress, I attempted to remove the fluid from the chest. Much to my surprise I found gross blood. I removed 650 cc., after which she felt relieved. The following morning I removed 400 cc. more.

She was given penicillin and sulfadiazine. Her temperature ranged from 99 to 100 for four days. On February 14, the day after entering the hospital, her hemoglobin was 81%; red count 4,460,000; white count 23,300. On February 16, hemoglobin 81%; red count 4,120,000; and white count 13,400. The aspirated fluid was negative on culture.

The electrocardiogram revealed a right heart strain and a marked degree of myocardial damage. The patient had an uneventful recovery, was discharged from the hospital on February 21, 1948, nine days after having been taken ill. She was last seen on April 12, 1948, in good health. The fluoroscope revealed a slightly thickened pleura at left base, but diaphragm moved freely.

CASE 2.—W. M., age 35, upholsterer by trade, felt perfectly well until March 2, 1948. In the evening while shaving, he felt a sudden sharp pain in right chest which lasted only a few minutes, after which he retired and had a good night's sleep. The next day he went to work. Though he did not feel as well as usual, he had no specific complaints. In the afternoon of this day, the pain in the right chest returned, more acute and severe than ever, accompanied by shortness of breath. He spent the night in bed in considerable pain and dyspnea. The next day Dr. Herbert Rogers was called, who immediately sent him to De Paul Hospital.

On admission, the patient appeared extremely ill. Blood pressure was 60-40, pulse 140. The skin was cold and moist, in extreme shock. The chest findings on admission revealed absent breath sounds over the entire right chest, percussion note tympanitic over entire right chest and beyond the sternum to left. The heart was pushed to the left, apex felt in left in mid-axillary line. A diagnosis of spontaneous pneumothorax was suspected.

Fifteen minutes after admission examination, the blood pressure could not be obtained. A *stat.* thoracentesis was done in posterior axillary line, 7th

*Presented at the Spring Clinic of the Norfolk County Medical Society, May 26, 1948.

interspace. Gross blood was obtained. The needle was withdrawn and an x-ray was made of the chest in a supine position. This revealed a fluid level. In the meantime, the physical findings had changed from a tympanitic note to flatness up to 3rd interspace.

Another aspiration was attempted, removing 500 cc. of gross blood and 750 cc. of air in 15 minutes. This was followed by dramatic improvement in the patient's condition. Blood pressure 98-60, pulse 100, respiration 28. He was started on penicillin the day of admission, March 3, and stopped on the 12th. March 6, his hemoglobin was 73%, red blood count 3,470,000, white blood count, 9,200. The patient continued to bleed, which necessitated frequent aspiration, which was performed seven times between March 3 and March 14, removing a total of 3,925 cc. All proved negative on culture. He was transfused twice. On March 15, his hemoglobin was 80%, red blood count 4,200,000, white blood count 19,100. He ran temperature four days, the highest 101°.

An x-ray made on March 14, on A. P. and lateral, revealed some infiltration of lower right and mid lobes. A pulmonary neoplasm was considered. He was discharged from hospital on March 20, in very good condition. He was readmitted on April 12, for a bronchoscopic examination. The middle and lower bronchi were found open, excretion removed and sent to laboratory. No tumor cells were found. Hemoglobin was 90%, red blood count 4,370,000, white blood count 9,000. An x-ray made of his chest after the bronchoscopic examination revealed much clearing of the lung with a thickened pleura over the lower portion of right lung. No fluid present. He was again discharged from hospital on April 17, in good condition. Final Impression: Spontaneous hemopneumothorax; infiltrative process in right lower lobe of lung of unknown etiology.

The first reference we have on this subject was in 1900. G. Pitt, of England, reported a case which was published in the "Transactions of the Clinical Society of London". H. D. Rollesten in the same year reported a similar case in the same journal. Both of these cases proved fatal. Pitt's case was treated by open drainage. In the light of our present knowledge, we feel that was not the proper thing to do.

Heise and Krouse, in 1920, reported a case following artificial pneumothorax. It was an acute case of tuberculosis. A few hours after the first injection 350 cc. of nitrogen gas, the patient had an acute spontaneous pneumothorax and died fourteen hours later. At autopsy the pleural space was found to have 2000 cc. of clotted blood. A small hole about 2 mm. in diameter was found in the lung over a small cavity. There was also a ruptured pleural band. No bleeding vessel was found.

Hopkins, in 1937, reported three cases and collected forty-six from the literature with eight fatalities. He states, "During the first forty-eight hours aspiration is justifiable for the control of dyspnea, but not as a routine measure. When the bleeding has stopped, the fluid should be removed and replaced by air".[1]

In October, 1938, Milton R. Lauria, of Sea View Hospital, reported five cases, one of which came to autopsy. "An Italian baker, age 22, was awakened during the night with severe pain in the left chest and shortness of breath. He continued to grow worse. About sixteen hours after the onset, he was taken to the hospital in an ambulance. He was aspirated only once, removing 500 cc. of air and 750 cc. of blood. He expired ninety hours after the onset. Autopsy revealed the left chest 75% filled with blood. The lung was completely collapsed. There was no evidence of tuberculosis of the lung. In the interlobar sulcus there was a small emphysematous bleb with a rupture about three-eighths of an inch long and one-eighth of an inch wide through which frothy fluid and air could be expressed. There was no evidence of a bleeding vessel found."[2]

In 1942, Hartzell reported three cases and reviewed the literature, collecting forty other cases.

In 1945, Franklin reported a case whose symptoms were a little confusing. A white male, age 23, was taken with severe pain in right chest, radiating to right shoulder and to the upper right quadrant of the abdomen. The right abdominal muscles were rigid. On the third day thoracentesis was performed, removing 500 cc. of gross blood. He was aspirated four times, each on alternate days, removing a total of 2700 cc. of bloody fluid recovered. Two other cases have been reported with acute abdominal pain where the abdomen was opened, suspecting a perforated ulcer. The abdominal pain in all probability was reflex from diaphragm, costal and parietal pleura.[3]

Etiology.—The true cause of spontaneous hemopneumothorax has not been definitely proven. It

is believed that spontaneous pneumothorax is the result of ruptured emphysematous bullae or blebs. As the lung goes down, intrapleural adhesions are torn, which produce bleeding, since it is known that pleural bands or adhesions are very vascular. In all probability, the bleeding in most instances comes from the parietal pleura. If the hemorrhage was coming from a rent in the visceral pleura, it would automatically stop as the lung collapsed.

An early diagnosis is very important, though it should not be so difficult. The patient is usually seen in shock, complaining of a severe pain in the chest, usually radiating to the shoulder of the affected side, though it may radiate to the epigastrium. Respiration is difficult, rapid and shallow. The affected side is splinted. The skin is moist and clammy. The pulse as a rule is rapid and blood pressure low. In Case 2, the systolic pressure was only 60 mm. The lower portion of the chest on the affected side is flat to percussion and hyper-resonant or tympanitic above. The heart is usually pushed to the opposite side. The character of the fluid can be determined only by thoracentesis.

Treatment.—Prompt treatment is very necessary. Fourteen of forty-four cases collected by Hartzell died; five of them died within twenty-four hours after reaching the hospital. First and most important is to combat shock, which usually is quite severe. Next, in importance, is the removal of the fluid and air from the pleural cavity, taking care not to release the pressure too fast or there will be too rapid a shift of the mediastinal structures. Aspirate every twenty-four to forty-eight hours as long as bleeding occurs. Keep the pleural space dry and give the lung a better chance to re-expand. The blood lost should be replaced by transfusion as often as necessary; antibiotics to combat infection.

I feel that blood in the pleural cavity should be removed for three reasons. First, to release pressure and enable the lung to re-expand more promptly with much earlier recovery. Second, blood is one of the best culture medias we have. There is always danger of empyema. Third, if blood is permitted to remain in the pleural cavity, the pleural becomes thickened by irritation and deposits of fibrin, resulting in atelectasis of the lung.

Why blood does not clot in the pleural cavity is not clear. Quoting from Hartzell's article, "The fluidity of the blood has been observed not alone in spontaneous hemopneumothorax, but also in pleural bleeding of traumatic and other origin. According to Sacquepee, blood in the pleural space becomes incoagulable after contact with the pleural membranes for four to five hours in man, after two hours in dog. This is true only if the pleura is not infected. Consequently, the discovery of clotted blood when performing thoracentesis means either that bleeding has not yet stopped, or that infection has taken place.

The probable explanation of the incoagulability of blood in hemothorax originates with Trousseau. According to this author, blood actually clots rapidly in the pleural cavity, even more rapidly than in external hemorrhage. As a result of agitation produced by cardiac and respiratory movements, the blood is rapidly defibrinated and the fibrin deposited on pleural surfaces before the red cells have had time to precipitate. Massive deposition of fibrin on pleural surfaces and surrounding the mediastinum was observed in the autopsied case of Jones and Gilbert, and these authors attributed the death of their patient to circulatory obstruction resulting from the contraction of organizing fibrin masses. In other autopsied cases, fibrin masses have not been found.[4]

Since sending this article to the press, a third case of Spontaneous Hemopneumothorax has come under my observation:

Mrs. S., age 29, white, while washing dishes, was taken with an acute stitch-like pain in the lower right chest back, followed by shortness of breath a few hours later. She called a physician who saw her about six hours later, and he told her she had a collapsed lung.

Five days later she came under my observation. By that time her chest was half filled with fluid and the upper lobe was about 25% collapsed. Aspiration revealed pure blood. She has been aspirated four times, getting about 1900 cc. altogether. Transfused twice and doing nicely.

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TREATMENT OF CARCINOMA OF THE ESOPHAGUS*

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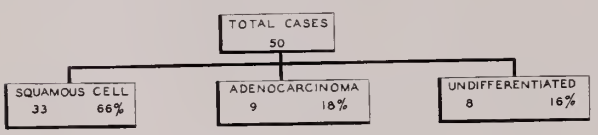
Cancer of the esophagus ranks fourth in frequency among malignant tumors occurring in the male beyond 20 years of age. A critical review of cancer of this region reveals the startling facts that few have been cured by any method of treatment, and few have received treatment when the malignant process was limited to the confines of the esophagus.

The successful treatment of cancer of the gullet depends upon early diagnosis. Cures depend upon the proper management of the patient with the presenting complaints of food "sticking in the throat" and difficulty in swallowing. These symptoms require immediate investigation by fluoroscopy during the administration of barium and esophagoscopic examination with biopsy of suspicious lesions.

The esophagus is the only portion of the gastrointestinal tract lined by squamous cell epithelium and approximately 70 per cent of the malignant tumors of this region are of the squamous cell variety (Table I). The destruction of cancer in this location by means of x-ray appears biologically possible, for cancer of the cervix uteri, lip, skin and larynx are favorably treated by this method.

CARCINOMA OF THE ESOPHAGUS
MEDICAL COLLEGE OF VA.
JAN 1942 - JAN 1948

TABLE I - CELL TYPE



The narrow lumen and thin walls of this organ are serious handicaps in the radium treatment of esophagus cancer. The radium applicator is usually introduced into the esophagus in a retrograde fashion by way of a gastrostomy. Stenosis of the esophageal lumen by cancer prevents proper tissue contact and the proximity of the applicator to the thin gullet wall leads to necrosis and later perforation. Radium has not found a place in the treatment of esophagus cancer and radiation therapy has had to depend on the external application of x-rays. Sporadic cases are reported in the literature where cancer of the esophagus has been cured by x-ray therapy, but in worthwhile series of cases this method of treatment is neither curative nor palliative in effect. Cleminson and Monkhouse[2] treated 80 patients with cancer of the esophagus by intensive x-ray therapy and found the survival period to be 6 months. It would appear that the unfavorable results with x-ray therapy can be ascribed to the depth of the esophagus within the thorax rather than to the inherent radio-resistiveness of these tumors.

At the present time surgical extirpation of esophagus cancer offers the only hope of cure to these patients. Progress in the development of surgery of the esophagus has been slow and for centuries this organ has been considered inaccessible to the surgeon's art. Refinement of surgical technique, chemotherapy and antibiotics, blood transfusions, and improvements in preoperative and postoperative care have contributed to the rapid development of esophageal surgery in the past decade. In 1912 Torek performed the first successful resection of the esophagus for cancer. In 1937 Adams and Phemister[1] performed the first resection of the distal one-third of the esophagus for cancer with immediate restitution of esophagogastric continuity. In the past ten years it would seem that the lack of experience of surgeons in the technical management of the operation, delay in diagnosis after the onset of symptoms, late or no referrals of patients for surgical treatment, and the high incidence of recurrence of cancer following operation, have all contributed to the none too secure role of surgery in the treatment of this disease. Recent reports[3,4,5] of surgically treated cases invalidate this conclusion and there are an ever increasing number of patients cured by this method.

Cancer of the esophagus can be cured in all patients at some stage in its development and growth, but it is in the early stages that symptoms are nil. The patient must be accepted for treatment in all stages of the disease. Treatment becomes a matter

*Read before Symposium on Malignant Growths, Medical College of Virginia, March 22 to March 27, 1948.

of palliation and providing for relief of distress in some, while in others curative attempts are indicated. If the cancer appears to be confined to the esophagus without evidence of metastasis and invasion of contiguous structures it is advisable to explore the lesion. The cases may be divided into operable and inoperable groups.

In the inoperable group the average life expectancy is from 6 to 9 months. Death by starvation is none too kind an existence and it is recommended that gastrostomy be performed after adequate preparation of the patient for operation. All too frequently the preoperative preparation of the patient is neglected, hoping that the gastrostomy will immediately restore the well-being of the victim. In 66 carcinomas of the mid-esophagus Sweet[5] found 38 per cent to be inoperable, while the remaining were suitable for exploration. Thirty-two (48.5 per cent) of the entire group were suitable for resection with esophagogastrostomy.

The operable group comprises patients whose general condition is satisfactory for resection of the esophagus and in whom there is no evidence of metastasis and extension to neighboring vital structures. A bronchoscopy is carried out to exclude invasion of the trachea or bronchi. The management of the operable group will be discussed by considering the preoperative preparation and care of the patient during operation.

Preoperative Preparation

The presence of total obstruction of the esophagus by carcinoma is not indicative of inoperability, but these patients require the utmost care in preparation for a resection. A careful appraisal of the patient's general condition is made by determining the renal and cardiovascular status. Protein and vitamin deficiences must be corrected either by parenteral or oral administration of these substances. Secondary anemia is overcome by multiple transfusions. A gastrostomy is contra-indicated in that it interferes with the establishment of intestinal continuity at the time of resection. A jejunostomy may become necessary when it is not possible to pass a Levine tube through the esophagus into the stomach for feeding purposes.

Care of Patient During Operation

A competent and well trained physician-anesthetist is indispensable in the management of these patients. Endotracheal nitrous oxide, oxygen and ether vapor is the anesthetic of choice. The esophagus is approached by entering the left pleural cavity through the periosteal bed of the resected eighth or ninth ribs. Cancer of the esophagus is located in the middle and lower thirds of the organ in approximately 80 per cent of the patients. If the primary lesion shows no evidence of invasion of structures which cannot be sacrificed with the tumor, resectability has been established even in the presence of widespread lymph node extension. The esophagus is mobilized well above the disease. The

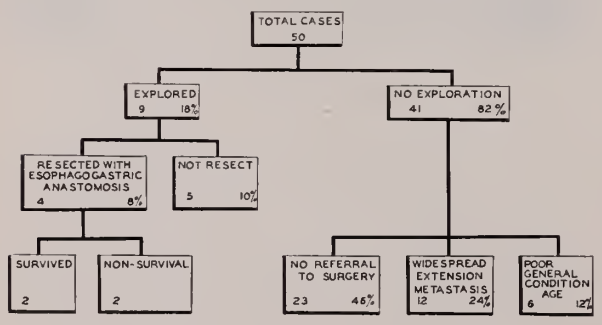
Fig. 1. Distal two-thirds of esophagus resected for carcinoma. Contrast filling with barium shows the anastomosis of the stomach with the esophagus above the arch of the aorta.

diaphragm is split and the stomach is delivered into the wound. Frequently node metastasis is present along the lesser curvature of the stomach. Division of the left gastric artery close to its origin from the cœliac axis permits wide removal of this group of lymph nodes and partial mobilization of the stomach. The vasa brevia arteries and left gastroepiploic artery are divided, permitting complete mobilization of the stomach. It is possible to bring the fundus of the stomach well above the arch of the aorta for an anastomosis with the stump of the esophagus in high lying lesions (Fig. I).

The lower esophagus is separated from the stomach by making the incision through the stomach well away from the cancer. After closing the gastric incision, the stomach is brought up into the chest and the anastomosis is made between the two organs. This type of operation with immediate restitution of esophagogastric continuity is curative in its approach and an excellent palliative procedure comparable to gastric resection for carcinoma of the stomach. If the primary lesion of the esophagus invades neighboring vital structures which cannot be removed with the cancer, the diaphragm is opened and a gastrostomy is performed for later nutritional needs. If an apparently curable cancer lies too high in the esophagus for the establishment of an anastomosis with the stomach, the entire esophagus is resected, bringing the cervical end of the organ out the neck and establishing a gastrostomy below. This operation (Torek) is not applicable to palliation in obvious incurable high lying esophagus cancer. During the operative procedure provisions are made for the adequate replacement of blood loss.

Fifty patients with carcinoma of the esophagus were admitted to the Medical College of Virginia Hospital between January, 1942, and January, 1948. The cell type was not unusual (Table I). The operability rate (18 per cent) is strikingly low, but a detail analysis of the entire group reveals that 23 patients (46 per cent) were not referred to surgery (Table II). Metastasis to the

TABLE II - OPERABILITY STATUS ESOPHAGUS CANCER



skin and cervical nodes, and invasion of the bronchus, recurrent laryngeal nerve and pharynx account for the placement of 12 patients in the inoperable group. Six additional patients were so classified because of age and poor general condition. Resection with esophagogastric anastomosis was possible in 4 of the 9 patients subjected to exploration. Invasion of the aorta, pleural extension, and massive nodal involvement contra-indicated resection in 5 patients. In larger series of case reports it would seem that approximately 50 per cent of patients with carcinoma of the esophagus are amenable to surgical extirpation of the lesion (Table III).

TABLE III - PUBLISHED SERIES OF CASES OF CARCINOMA OF THE ESOPHAGUS

AUTHOR	TOTAL CASES	OPERABLE	RESECTABLE
GARLOCK	?	131	60-46%
ADAMS	100	28	16-16%
SWEET	86 MID-ESOPHAGUS	41	32-48.5%

TABLE IV - LATE RESULTS IN 7 RESECTED CASES CANCER ESOPHAGUS

LIVING OVER 1 YEAR	3
LIVING 3 TO 4 YEARS	1
DIED 1 TO 2 YEARS	3

Two patients survived resection of the esophagus (Table II). In 5 additional esophageal resections performed by the author elsewhere for carcinoma of the esophagus, survival was of sufficient duration to determine something about the late results. A follow-up of these seven patients shows that all lived beyond a period of one year (Table IV). One is living and apparently well 45 months following resection. Three died of recurrence of the carcinoma over one year after palliative resection. The gratitude of these patients and their apparent comfort for many months following palliative resection offers a stimulus to expanding the range of resectability in patients where cure is impossible.

The number of five year cures or even three year cures of esophagus cancer by resection is too small to permit drawing conclusions. Surgical extirpation of esophagus cancer would seem to offer the only hope of cure.

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Emotional Stress and Headaches.

Most headaches are caused by emotional stress, five New York physicians indicate in the January 22 issue of *The Journal of the American Medical Association.*

Three of the physicians—Arnold P. Friedman, of the Headache Clinic Section, Mental Hygiene Service, Veterans Administration, and Charles Brenner and Sidney Carter, from the Division of Neuropsychiatry, Montefiore Hospital, and the College of Physicians and Surgeons, Columbia University—conducted special headache clinics. They found that headaches for which there is no apparent physical cause and headaches following head injuries were by far the most common among patients.

Treating 494 patients with headaches of these kinds, the three physicians found that 50 to 60 per cent responded favorably to almost any medicine given them, and nearly as well to placebos, harmless but ineffective substitutes for drugs. Treatments used included psychotherapy, pain-relieving drugs, substances to constrict and dilate the blood vessels, vitamins and hormones.

Results of the study strongly suggest that the effectiveness of the medications was caused primarily by the patient's psychologic reaction to the treatment situation in general and to having received a "remedy" from the doctor.

Robert M. Marcussen, M.D., and Harold G. Wolff, M.D., from the New York Hospital and the Departments of Medicine and Psychiatry, Cornell University Medical College, made a study of migraine headache. The typical sufferer from migraine headache, they found, is ambitious and tends to be a perfectionist. "They are tense driving persons who have found that doing more than and better than their fellows brings a good deal of satisfaction. However, this end is accomplished at a great cost in energy. They become resentful because they cannot keep up with the load which the world and themselves impose. The natural outcome is tension, fatigue, and exhaustion; in this setting headache makes its appearance. Rage, resentment, and frustration are often common denominators of the emotional derangement preceding an attack of migraine. However, dramatic events need not precede headache—many follow long periods of so-called routine living with slowly accumulating tension."

Although the doctor can make the migraine patient aware of the cost of such a way of life, the decision of what to do about it is the patient's, the physicians emphasize.

RESULTS OF 1000 EXAMINATIONS IN THE BESSIE DUNN MILLER CANCER DETECTION CENTER*

WILLIAM E. BRAY, JR., M.D.,
Charlottesville, Virginia.

The Bessie Dunn Miller Center was established in February, 1945, by the Albemarle Home Demonstration Group as a memorial to the late Mrs. Miller, a cancer victim, who was very active in health work among the rural women. It was sponsored by this group, the Albemarle County Medical Society, the University of Virginia Hospital, and the Virginia Cancer Society; financial support was later furnished by the Community Chest Fund.

This Center was patterned after those then in operation in New York City, Philadelphia, and Chicago. Our clinic differed, however, in that the examinations were limited to well people only. It was the seventh clinic established in the United States and the first to deal primarily with rural women.

The demand for this type of clinic arose as a result of the all out attack on the problem of cancer. The important factor of prevention and early control of cancer had been long neglected. Educational campaigns of the various cancer organizations supplied the incentive. Many more individuals became aware of the cancer problem and sought the advice of their physicians. In 1945 there was a definite shortage of physicians here and they were too busy to undertake routine examinations on well individuals. As a result of the increased publicity, many individuals became quite concerned and needed examinations for reassurance. The majority of these cancer detection centers were begun by lay individuals, who were interested in cancer work, with the cooperation of their local physicians.

Medicine then, after devoting much time to cancer, now attempted a new approach—to find and eradicate early cancer and so-called "precancerous" lesions. Individuals were encouraged to have annual or semi-annual examinations and, as a result, the demand for such centers increased. New ones are begun yearly.

*From the Department of Medicine, University of Virginia Hospital, Charlottesville.

Read before the Albemarle County Medical Society, May 6, 1948.

The purpose of our center was to offer to the people of Albemarle County and Charlottesville semi-annual and annual examinations with the object of detecting precancerous lesions and early cancer. Each individual who entered the center pledged to submit to three examinations at six to twelve month intervals, thus permitting us to follow them for eighteen to thirty-six months. Many have returned for their fourth and even fifth examination voluntarily. The Center limited the examinations to well individuals who had not consulted their physicians during the previous twelve months.

The examination consisted of a complete medical history, complete physical examination, urinalysis, complete blood counts and smear, and a 70 mm. chest survey film.

The results of these examinations and our impressions were sent to the patient's physician who carried out any additional studies or treatment. No medical advice or treatment was prescribed by the Clinic.

The role of the local physician is quite important to the success of the Center. It is only by their cooperation that the Center can function and by their participation in it that the patient benefits.

During the past three years, over 1,200 examinations have been performed on approximately 650 individuals. Females far outnumber males. The ages of the patients range from 19 to 75, predominately, however, between the ages of 40 and 60.

The report tonight deals with the first 1000 examinations. The abnormalities found are based on our initial examinations, our follow-up examinations, and reports from the local physicians of further studies, operations and pathological reports. These statistics will change from time to time as additional follow-ups reveal more definite information on some of the suspicious lesions. 30-35% of the examinees presented themselves without complaints. 30% had histories of chronic disorders such as arthritis, allergic rhinitis, and sinusitis, and 30-35% had specific complaints, some related to possible cancer. This latter group was not eligible

for admission and an honest attempt was made to keep this group small.

FIG. 1

Number of Examinations	1,000
Number of Abnormalities	589

In 1000 examinations (Fig. 1), 589 abnormalities were found involving all systems in the body. Roughly 50% of the examinees had one or more. As we shall see, the majority did not relate to cancer. This is an astoundingly large number of abnormalities in a group of people who, for the most part, consider themselves well and who had not consulted their own physicians during the previous twelve months. By early recognition and treatment of some of these, we feel that more serious illnesses were avoided.

FIG. 2

CARCINOMAS

Carcinoma Skin (Unclassified)	3
Carcinoma Rectum	1
Epidermoid Carcinoma Maxillary Sinus	1*
Carcinoma Colon	1
Carcinoma Cervix	1
Basal Cell Carcinoma of Skin	1
Carcinoma Ovary	1*
Carcinoma Sweat Gland	1
Carcinoma Prostate	1

*Died.

Eleven proven carcinomas (Fig. 2) were found, an incidence of 1.1%. Some were not found as early as we might have wished. A brief summary of some of the proven cases follows.

I. Mrs. R. H., age 47, examined April 30, 1946. Family history revealed carcinoma. Physical examination revealed a scaly area on left side of nose and cheek with slight superficial ulceration of six months duration.

Biopsy revealed a completely removed basal cell carcinoma.

II. Mrs. G. G., age 61, examined May 5, 1946. No family history of cancer. She noticed six months previously a small superficial non-tender lump between her left breast and axilla. Examination revealed a pea size hard nodule in the skin which did not appear attached to the under lying tissue. Biopsy revealed a carcinoma of a sweat gland. Radical resection was advised, but the patient refused. She has not returned to the Clinic.

III. Mrs. W. F., age 57, examined November 4, 1946. No family history of cancer. No complaints other than spotting on two occasions during the past year. Her last menstrual period occurred nine years ago. The last spotting occurred one week prior to the examination.

Examination revealed piled-up friable granulating tissue around the cervical os which bled easily. Biopsy revealed carcinoma of the cervix.

IV. Mr. C. C., age 74, examined August 21, 1946. Family history revealed many carcinomas. Pertinent history revealed epigastric burning pain, aerophagia, and intermittent constipation and diarrhea. He occasionally had noticed hemorrhoids.

Physical examination and laboratory studies were negative. He was referred to his physician for further studies.

Six months later, he was re-examined. In the interim he had G. I. x-rays which were negative. He now complained of suprapubic pain radiating into both lower quadrants synchronous with peristalsis and a desire to defecate. He was having three somewhat illformed stools a day. No blood or mucus had been noticed. Again physical examinations and blood studies were normal. Several stool examinations were negative. He returned to the Clinic four months later. He had not returned to his physician. A barium enema was obtained which revealed organic obstruction at the rectosigmoid. Proctoscopic examination revealed a carcinoma of the colon.

This case illustrates one weakness in the Center organization. This patient had symptoms suggestive of large bowel neoplasm when first seen. He returned to his physician and later to the Clinic, but in the interim, both the physician and the Clinic lost contact with him. The diagnosis was not established until eleven months after the initial examination. Under the rules of the Clinic, diagnostic studies are to be made by the patient's physician. The divided responsibility here caused a marked delay.

V. Mr. C. B., age 50, examined September 17, 1946. No family history of carcinoma. No complaints. Normal physical examination, and normal laboratory examination.

Re-examined August 12, 1947, eleven months later. For two months, he had noticed passage of bright blood by bowel, unassociated with pain. Stools had increased to three a day accompanied by gross mucus. Pruritis ani was present, accentuated by sweets.

Physical examination and blood counts were normal. Barium enema revealed a diverticulitis in the descending and sigmoid colon. He was placed on a low residue diet, antispasmodics, and told to report at intervals. Four months later he was asymptomatic on his return and had gained weight. One month later, he was found to have an advanced carcinoma of the rectum.

This unfortunate case illustrates the great value of proctoscopic examination in any individual with bowel symptoms. Carcinoma is often overlooked when another condition is present which may cause the symptoms.

There were a large number of so-called "precancerous" conditions.

FIG. 3

PRECANCEROUS LESIONS

Cervical Erosions	81
Cervical Polyps	11
Leukoplakia	2
Papilloma Skin and Mucous Membranes	4
	98

Ninety-eight precancerous lesions were found. The majority of these were totally unsuspected by the patients. On follow-up examinations most of these had been treated by their physicians and the lesions eradicated. As far as we can now tell, none of these were malignant.

There were eighty-three lesions which we were unable to classify on the first examination. These were grouped under suspicious lesions (Fig. 4) and

FIG. 4

SUSPICIOUS LESIONS

Solitary Breast Nodules	5
Cystic Mastitis	30
Ovarian Tumor	1
Uterine Fibroid	15
Active or Deeply Pigmented Moles	20
Rectal Polyp	1
Thyroid Nodules	9
Prostate Nodules	2
	83

the examinee was sent to her physician for further observation or removal of the lesion.

The solitary breast nodules were subsequently removed and proved benign and could now be reclassified under cystic mastitis. The cystic mastitis cases are being followed by their physicians and the Clinic at intervals. Several have been biopsed. A large asymptomatic and unsuspected ovarian tumor was removed, and it proved benign. One of the fibroids was the size of an eighth month pregnancy and was unsuspected by the obese patient. This was removed. The rectal polyp was removed and proved benign. Studies of the colon showed no others. The majority of the active moles were removed and no malignancies were discovered in this group, although pathological examination was not done on those which were desiccated. The desiccation of pigmented moles is to be deplored as the irritation may predispose to malignant change.

Figure 5 summarizes the wide variety of other conditions discovered on examination.

FIG. 5

MISCELLANEOUS

Anemia	
(a) Primary	2
(b) Secondary	50
Diffuse Non-Toxic Goiter	17
Nodular Non-Toxic Goiter	8
Toxic Nodular Goiter	1
Gastro-Intestinal	
Duodenal Ulcer	5
Chronic Cholecystitis	4
Spastic Colitis	2
Duodenal Diverticulum	1
Atrophic Arthritis	14
Hypertrophic Arthritis	28
Cardiovascular	
Arteriosclerotic	27
Angina	6
Rheumatic	3
Malignant Hypertension	3
Benign Hypertension	47
Hypertensive and Arteriosclerotic	7
Dextracardia	1
Respiratory	
Bronchiectasis	5
Emphysema	9
Tuberculosis	5
Diabetes	5
Multiple Sclerosis	2
Ruptured Intervertebral Disc	1
Psychoneurosis	2
Obesity	63
Hernia	1
Cystocele	16
Rectocele	9
Allergic Rhinitis	14
Asthma	10
Urticaria	2

Sinusitis	19
Eczema	8
Hemangioma	2
Lipoma	8
Polycythemia Vera	1
Rectal Fissures and Hemorrhoids	4

Some of these miscellaneous abnormalities were already known to the patient, but the vast majority of these patients did not suspect anything wrong. Many of these conditions were found early before the patient had experienced much difficulty. Each examinee was sent back to her physician for management.

In summary, in 1000 examinations, 589 abnormalities were found. Eleven cancers, ninety-eight precancerous lesions, and eighty-three suspicious lesions, a total of 190 (19%) lesions which were cancerous or may be related to cancer. 399 other abnormalities of greater or lesser degree were found.

In conclusion, I believe that the Center has proved its worth in several definite ways. The people who have entered the Center have gained some knowledge of the problem. Each has been told and given pamphlets on the important danger signs of cancer. Each woman was told how to examine her breast and urged to do so once a month and to report to her physician any changes. One examinee who had been examined six months previously and had already made a return appointment, examined her breast and noticed a small module. She reported instead to her physician who found an early malignancy. Its educational role is quite important in the problem of cancer.

Studies are now in progress elsewhere which incorporate all statistics from these clinics into one group in the hope that more information may be gained as to possible precipitating factors.

This type of clinic encourages individuals to have annual examinations. During these examinations, other abnormalities may be found early and corrected which increases the prognosis.

Discovery of cancer in its early stage lessens the mortality, and life and health can be prolonged.

Our clinic-physician relationship tends to keep his "index of suspicion" elevated.

It seems to me that individuals who consider themselves healthy, are more prone to attend such a clinic for routine examination than their physicians, and thus they avoid procrastination concerning their health.

Average Age of Physicians at Death.

The average age of physicians in the United States at death has risen steadily during the past four years, according to American Medical Association statistics.

In 1948 the average age of physicians at death was 67.4 years, says an editorial in the January 22 issue of *The Journal of the American Medical Association.* In 1947 it was 66.7 years; in 1946, 66.1 years; and in 1945, 65.3 years.

Heart disease is the number one killer among physicians. Coronary thrombosis, angina pectoris, rheumatic heart, and other heart conditions accounted for 41 per cent of the 3,230 deaths of physicians reported by *The Journal* during the year. Diseases of the nervous system were second, causing 412 deaths, cancer and other malignant tumors third, accounting for 348 deaths, and accidents fourth, accounting for 173 deaths. Falls caused more deaths than did any other type of accident, and motor vehicle accidents caused more than twice as many deaths as did air transport accidents. Other major causes of death among physicians were diseases of the respiratory system, accounting for 163 deaths, and diseases of the digestive system, accounting for 114.

Twenty-three physicians of the 3,230 total were killed in action during World War II, and 33 died while in military service.

ECHINOCOCCIC CYST OF THE LIVER*

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Presenting a single case of echinococcic cyst of the liver is prompted not by its frequency—for the disease is uncommon in the United States—but rather because of the expected increase in frequency of the disease in members of the Armed Forces, who have been scattered thruout the World. Its onset is insidious and may require years to manifest itself; thus the cases can be expected to produce many diagnostic problems in the years to come. The disease is common in central and northern Europe (Karsner)[1] and in the sheep-raising countries, such as Argentina, Uruguay, New Zealand, Australia, Italy, Syria, Greece, and Algeria.[2] In North America there totaled 482 cases of hydatid disease, reported up to 1944, and, of these, 22 were indigenous. Much of the literature is from South America, and has been recently reviewed by Davidson in the *Journal of Thoracic Surgery,* December, 1944.

The development of the disease in man is understood after a study of the evolution of the taenia and larva of *Echinococcus* tape worm. The definitive host of the tape worm is the dog (or jackal or wolf). Sheep, cows, pigs, etc., are intermediate hosts like man, and serve to perpetuate the disease. The dog becomes infected by eating the raw meat and entrails of the other animals. Man is an accidental host as far as further biological development of the parasite is concerned, since no one eats man (a dead-end in spreading the disease).

The tape worm, *echinococcus granulosa,* is found in small intestines of the dog. The ova from the worms are discharged in the stool of the dog. The worm is small, about 6 mm. long, and made up of 3 segments, the head and neck, and two proglottes, including an enlarged terminal compartment from which the eggs are discharged into the stool. The head contains suckers and hooklets, by which the worm fastens itself to the intestinal mucosa of the dog.

The ova (or embryophore) are gotten into man (or other animals) by eating uncooked food, or water. Worthen claims that eggs are present in oral secretion or on fur of animals.[2] When the egg lodges in man's stomach, the digestive juices dissolves the external coat, freeing the hexacanthus embryo, which then bores thru the gut wall, and is conveyed by either blood or lymph to any part of the body. This mode of infestation predisposes the liver to infection (75% cases).

In the liver, as in other organs, there is formed a slowly growing cysticercus, or larval stage. The cyst develops by becoming vacuolated, forming an inner germinal layer (nucleated layer), and an outer laminated or non-nucleated layer. From the germinal layer, cells form proliferative vesicles which form scolices (the heads or sources of new worms). These scolices then become pinched off and sink to the bottom of the fluid (hydatid sand). The fully developed cyst shows a wall made up microscopically of concentric laminae of hyalin chitinous-like material lined by germinal cells from which grow daughter cysts and in turn granddaughter cysts (see figure 1). The parent cyst may

Fig. 1. Portion of material removed.

grow to great size. The daughter cysts vary in size from a few millimeters to many centimeters in diameter (see figure 2).

A fibrous wall is produced by the host around the cyst, forming an adventitia. The cyst content

*From U. S. Marine Hospital, Stapleton.

is usually fluid, thin and colorless, containing salt and very little protein. Hooklets and scolices are found in the fluid and may be the source of secondary cysts. In old cases the cyst fluid becomes inspissated and putty-like, in which stage daughter cysts, scolices and hooklets are often absent.

Fig. 2. Variation in size—daughter cysts.

The fluid and membranes of a simple cyst are bacteriologically sterile, and cysts without scolices and brood capsules are biologically sterile. If a cyst ruptures into a large vein, or into the peritoneum, metastatic hydatidosis and secondary hydatidosis occurs. This is important to remember in treating a case. A drop of the fluid from a cyst may produce new cysts, which may not reveal itself for years after the primary cyst was removed.

The diagnosis of echinococcic disease is very difficult, pre-operatively. According to Meaken,[4] there is only one real important parasitic disease of liver which produces cysts, and that is the echinococcus Trichinella spiralis, which will cause small cysts to form in muscles (trichinosis) but they never form large cysts like the echinococcus.

Echinococcic disease may simulate a new growth in the liver, but fluctuation of the mass is common and frequently a hydatid fremitus is felt. The general condition of the patient remains good, and jaundice is rare. It may simulate biliary tract disease, i.e., produce obstruction, rupture into gall bladder, etc.[2] Geographical distribution of the disease is important in thinking of the disease. In the lung (the 2nd most common site) the cysts are usually single, and daughter cysts are rare (Davidson). (Holman[5] presents cases with numerous daughter cysts.) They may remain symptomless for years, or until they erode or press upon a bronchus, producing pain, cough, hemoptysis. The disease progresses very slowly. (Dew[6] estimates rate growth of cysts = 1 mm. mo.)

Laboratory tests help but are not conclusive. The blood count may show an eosinophilia but this is not always present. The Weinberg complement fixation and the Casoni intra-dermal test will help, but, unless the antigen is fresh, may give false tests. In lung cases, a definite diagnosis can be made if the laminated membrane, hooklets, or scolices are found in sputum. A characteristic x-ray picture of lung disease is produced by air, dissecting down along the adventia, producing a diagnostic dome-shaped cap of lessened density above the cyst.

In liver disease, the only positive diagnosis is thru exploratory operation and finding the daughter cysts containing scolices in the mass, as in the case presented below. However, one should suspect echinococcic liver cystic disease if the patient has a soft, non-tender mass with no clinical evidence of gastro-intestinal malignancy, and a history of being born or living in one of the foreign sheep-raising countries.

In foreign literature, one finds frequent references of spontaneous or traumatic rupture of cysts into the peritoneum (i.e., in football players) producing immediate death. Apparently the cyst fluid produces an anaphylactic shock reaction.

Case Presentation

M. S., age 50, was admitted to U. S. Marine Hospital, Stapleton, Staten Island, on January 8, 1946, complaining of "pain and swelling of stomach". He was born in Arabia and has been going to sea for 30 years. He left Arabia in 1920, to come to the United States. (For four years before that he shipped out of Arabian ports, to all European ports. He returned to his home in Iden, Arabia, in 1936, remaining two years. Since then he has been working as an oiler on ships running from New Orleans to Colon, Panama, and Honduras, Central America. For a 25-month period (1943-45) he worked on an Army transport stationed in the far East, Australia, New Zealand and Philippines.) He worked on a farm in Arabia for short periods of time between trips—(1916-20 and 1936-38).

His family and past history do not contribute anything to the history. Mother died in 1918 of

"flu" and he has two sisters living and apparently well in Arabia.

His present illness began about four years ago when he first noticed a lump in the right upper quadrant of his abdomen. This caused no discomfort, and he was able to continue with his regular work until two months before admission here, when he developed pain in the abdomen, which was made worse by climbing or straining. He had no gastro-intestinal symptoms. In fact, review of the system history was entirely negative except for slight anorexia for the past three or four months. He had no weight loss,—his usual weight 147 lbs.

Physical examination on admission here revealed an emaciated, slightly developed Arabian male, in no pain, and co-operative. The only positive findings was a mass in the abdomen, associated with the liver. The mass extended 8 cm. below the costal margin on the right, and beyond the midline on the left. It was impossible to separate it from the liver. The surface was irregular, soft, and at times almost fluctuant, and at other times quite firm. It was not tender. No lymphadenopathy was noted and no jaundice or varicosities over the abdomen were observed. His blood pressure was 108/72; pulse 72; temperature normal. His chest was clear.

Laboratory work revealed no abnormalities of blood; blood Kahn and Mazzini negative; RBC 5,300,000 with 16.8 gms. hg., WBC 5,500 with 59.% lymphocytes and no eosinophilia. Bleeding time 2 minutes, coagulation time 6 minutes. Icteric index 6. Stool culture revealed no pathogenic organisms and on stool examination no ova or parasites were found. Urinalysis revealed 100 mg. albumin.

X-rays, including gastro-intestinal barium studies, were reported as showing a markedly enlarged liver, producing considerable displacement of stomach and duodenum to right and posterior.

Chest x-ray revealed a homogeneous increased density just above the leaves of the diaphragm, extending upwards, which under fluoroscopy was shown to be directly continuous with the upper border of the diaphragm and probably due to the mass below. The x-ray impression was "large cyst of liver and lower lobes, left lung".

The pre-operative differential diagnosis was:

1. Echinococcic cyst of liver.
2. Metastatic carcinoma of the liver.
3. Primary liver malignancy (lymphosarcoma, Hodgkin's, etc.).

On February 4, 1946, the abdomen was explored*, revealing a tremendous mass on the inferior surface of the liver, extending backwards and to the left, in front of the stomach, along the quadrate lobe of the liver, to the left in front of the stomach, between it and the spleen; and then upwards, deep in the left side over the kidney and adrenals. The cyst was grey white in color, soft but tense. The abdomen was packed off and the mass aspirated, obtaining clear fluid and then collapsed daughter cysts. A cannula was then inserted into the cyst and 2% formalin injected. After about five minutes, the cyst was opened and over 1500 gms. of daughter cysts were removed. The mass must have contained over a gallon of fluid, altho there was no way of measuring it. The daughter cysts varied in size from a fraction of a millimeter to 6 cm. in diameter. Histologic examination of this fluid revealed numerous hooklets and scolices. The cyst was opened wider and a secondary communicating pocket on the left side drained. The edges of the cyst were then marsupialized to the skin in the mid line of the abdomen.

Following the operation, the patient ran a septic toxic course with a fever of 39.8, gradually returning to normal in 48 days. He continued to drain purulent matter in moderate amounts. The drainage contains no scolices or hooklets. (Pus contains B. Coli and streptococcus viridans).

Drainage gradually lessened and patient improved. X-rays revealed the pocket to still be present, but drainage is adequate and the opening is dependent.

The patient has been seen in outpatient clinic for frequent follow-up examinations during the past 1½ years. The pocket became progressively smaller and, after about one year, drainage stopped. He has returned to work, has gained weight. When last seen he had no palpable abdominal masses, and was asymptomatic. He has shown no signs of secondary hydatidosis.

SUMMARY

The epidemiology-pathology and treatment of echinococcic disease is discussed. A case of the disease, with large liver abscess is presented. At the present time the most important factor in the

*Exploratory operation performed by Dr. Louis R. Davidson.

disease is prevention: that is, eating only well-cooked food while visiting or living in endemic areas. If the disease develops, treatment is surgical, and consists of either excision of the cyst or drainage.

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Syrup of Urethane Dangerous!

The Federal Security Administration's Food and Drug Administration is making seizure of Syrup of Urethane. This is a cough syrup manufactured by Marvin R. Thompson, Inc., Stamford, Connecticut. Physicians, pharmacists, and consumers are warned that the administration of Urethane in the quantity recommended on the label may cause a dangerous lowering of the white blood cell count. This leaves the patient more liable to infection from disease germs. Individuals suffering from coughs are likely to have accompanying infections.

More than 2300 gallons of Syrup of Urethane have been distributed in about 34,000 packages ranging in size from ½ oz. physician's samples to one gallon bottles. The product has gone throughout the country to physicians, wholesale druggists, and retail pharmacists. When seizure actions were commenced the manufacturers started to recall Syrup of Urethane from the market. The manner and extent of distribution are such that neither the manufacturer nor federal, state, and local health offices will be able to locate all bottles promptly.

Use Smear Test to Diagnose Early Cancer.

Kidney cancer at a pre-growth stage has been detected by two cell experts using the diagnostic "smear" test for malignancy.

George N. Papanicolaou, M.D., developer of the smear test, and his co-worker, N. Chandler Foot, M.D., of the Cornell University Medical College Department of Anatomy, New York, say *J. A. M. A.*, Feb. 5, 1949, that they were able to identify the disease in a patient before the tiny cancer invaded surrounding tissue.

Cancer in this early stage, called cancer "in situ," often can be eradicated by prompt treatment. Because the microscopic tumor is not revealed by x-ray photographs, and because the urinary tract is inaccessible to direct examination, cancer in situ of the kidney has been almost impossible to diagnose.

Describing the smear test, Dr. Papanicolaou says: "Cells at the surface of the growth tend to be dislodged. A technique for collecting the cellular debris, smearing it upon glass slides, and staining it has been perfected so that various components may be studied."

The interpretation of the smear requires the services of a careful and discriminating cell specialist who has had experience in this field, Dr. Papanicolaou emphasizes.

After the kidney was removed, microscopic examination revealed small areas in which there was unmistakable evidence of cancerous change in the tissue, the physicians say, adding:

"For good results from surgery in the case of these highly malignant tumors, which have been found to be most refractory to surgical treatment, it is imperative that they be recognized and removed before they have become invasive and metastatic. In the past this has proved to be almost impossible."

SUBCUTANEOUS PLASMA INFUSION IN CONVALESCENT CHILDREN*

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In convalescence after debilitating diseases there are many children who have need for the restoration of tissue protein. Peters[1] states that negative nitrogen balance usually occurs during and following acute infectious processes. At the present time whole blood, plasma and amino acids are used extensively to allay this condition. Oral plasma has been given to prematures and found to be of some help[2]. Much valuable work has been done with parenteral administration of these substances[3]. Plasma and serum have been found to be most valuable in antibody transfer in children[4]. It has been our personal observation in a statistically insignificant series that intramuscular pooled plasma in three times the dosage was as valuable in immunization against rubeola on an open ward as was immune globulin. During and since the World War II all blood donors are questioned as to their ever having had jaundice, and those who have had the disease are rejected, thus eliminating a very real danger in the use of plasma[5].

Pooled plasma has the advantages that it can be stored indefinitely, involves no laboratory procedure such as cross-matching, and can be injected with the use of only a sterile needle and syringe.

Even to experienced pediatricians intravenous injection is a time consuming and worrisome procedure in babies and small children[6,7]. In several hospitals as well as our own, there has been a tendency to give plasma subcutaneously when a good vein was not present or when the veins needed to be saved for other purposes. In an attempt to evaluate the subcutaneous route, this work was proposed. We believe that proper perspective can only be had when the subcutaneous infusion of plasma is contrasted with the usual rapid intravenous route under similar controlled conditions.

*From the Department of Pediatrics, Medical College of Virginia.

PROCEDURE

Each patient selected was free from an acute condition; yet, each was in a debilitated state so that plasma injection was desirable. Every patient was apparently in good fluid balance when chosen. Each was between nine and twenty-nine months of age. The preceding diseases were infectious diarrhea, pertussis, bronchopneumonia, esophageal strictures, acute otitis media, improper feeding and severe upper respiratory infections. None was selected who had not been free from an elevation of temperature for at least three days. All previous signs and symptoms of dehydration had disappeared.

Subcutaneous injections were done with a long 20 needle with a 50 c.c. syringe. The plasma was inserted under the skin between the scapulae in the back.

A hemoglobin, hematocrit, and a serum protein determination were done five times. Two control tests were done, the blood for the first being taken 24 hours prior to the injection of the plasma, and the second just before the plasma injection. These values were averaged in obtaining the normal control levels. Blood for the tests following the plasma injection was taken four, eight, and twenty-four hours following the plasma administration. The hemoglobin determinations were done by one person with two Sahli-Hellige hemoglobinometers which were checked and found to have the same calibration. The hematocrit determinations were done on oxalated blood in Wintrobe tubes. One-tenth c.c. of balanced 0.8% potassium oxalate and 1.2% ammonium oxalate evaporated to dryness was used per 2.5 c.c. of blood. Hematocrit tubes were centrifuged for sixty minutes at 3,000 RPM. The majority of serum protein determinations were done by the Kagan falling drop proteinometer[8]. For comparative reasons a few were done by the Kjeldahl method, these agreeing very closely with the falling

drop method. Each recorded value represents the average of three determinations of the falling drop, none of which varied more than .06 grams.

Two series of cases were studied simultaneously. The procedures used were exactly the same in both except that the plasma was given subcutaneously alternating with the rapid intravenous route. The amount of plasma injected was always ten c.c. per pound of body weight. The blood for all determinations was obtained from the external jugular vein since it was felt that the use of a tourniquet would damage capillaries with resultant false values.

The results in the following charts are the averages of the work on twelve patients by the intravenous method and thirteen by the subcutaneous method. The work was begun on eighteen other cases by the subcutaneous route but it was discontinued because of inability to obtain all necessary blood samples.

Discussions of Results

The results of these experiments are noted in the accompanying charts (Fig. 1 and 2). The values for the base lines are an average of two closely agreeing controls taken 24 hours apart.

In those patients receiving plasma subcutaneously the concentration of serum protein at the end of the four hour period was definitely elevated above the initial value. Although the actual protein concentration of the injected plasma was not determined in all cases it was probably no higher than the average protein level of the patients since it was diluted approximately fourteen per cent with sodium citrate in collecting the blood[9]. In determinations made on three samples of plasma, it varied from 6.05 to 6.35. The increase in plasma protein concentration during the first four hour period suggested that the injected plasma passed readily into the blood and that most of the excess fluid thus absorbed passed into the tissues, leaving the injected plasma proteins behind in the blood. It was of course probable that a considerable amount of the excess fluid may have been eliminated by way of the kidneys. However it was not practical to determine whether the rate of urine formation was increased following the insertion of the plasma. This passage of subcutaneously injected protein into the blood has been shown by Drinker to be by way of the lymphatics rather than by direct

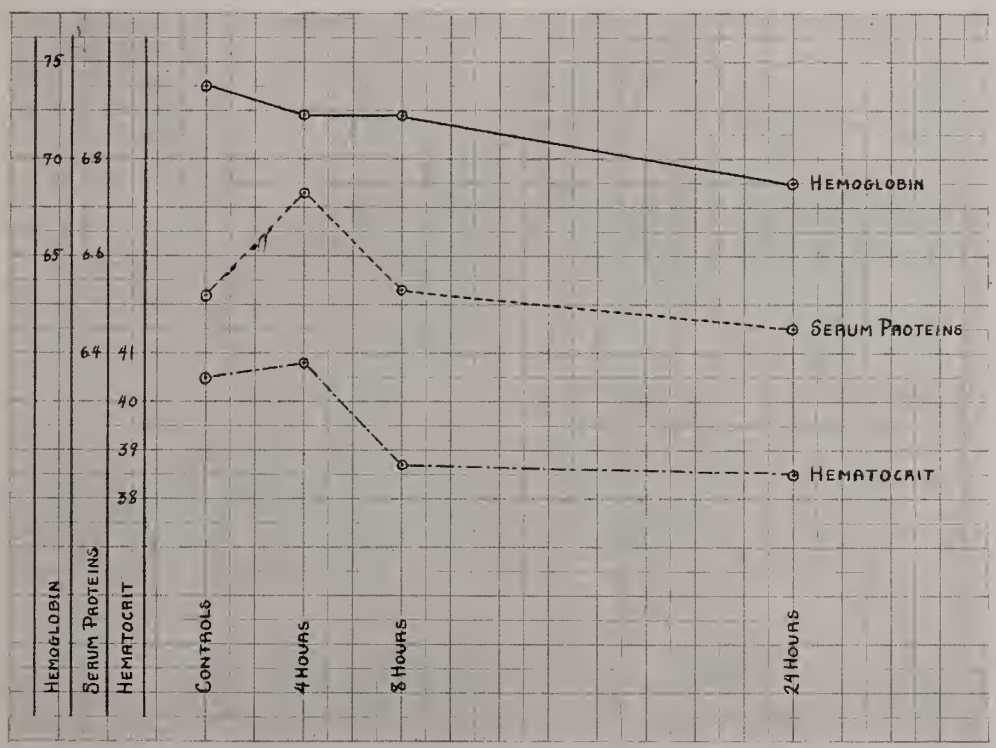

Fig. 1. Subcutaneous Administration of Plasma. Curves obtained when averages were made of the blood determinations in the thirteen convalescent children given subcutaneous plasma.

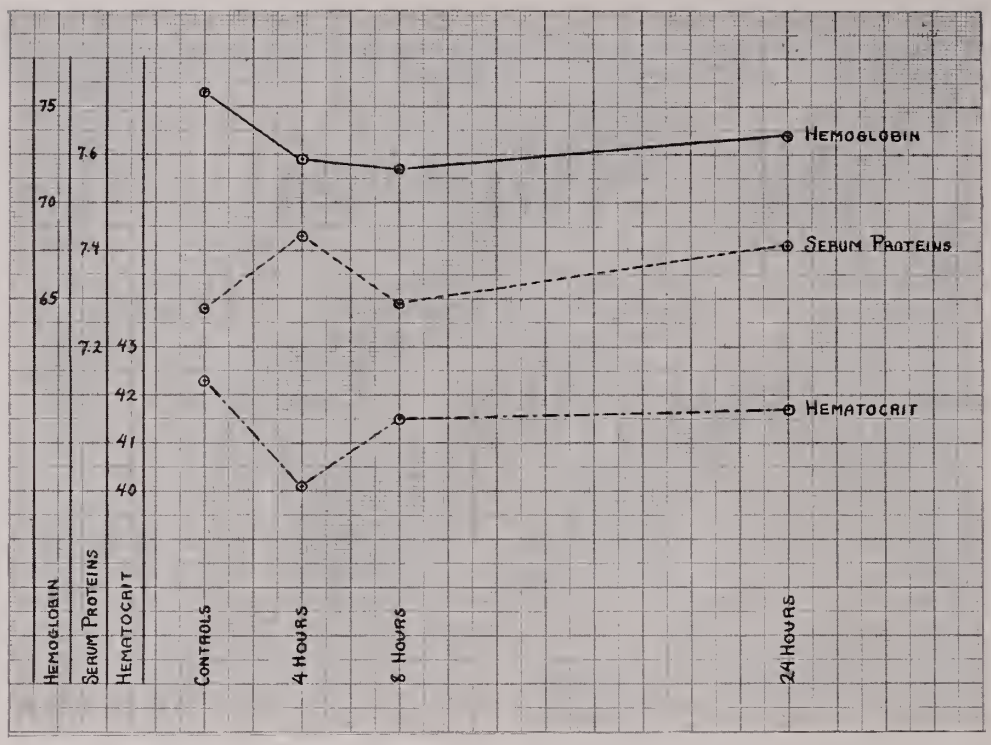

Fig. 2. Rapid Intravenous Administration of Plasma. Curves obtained when averages were made of the blood determinations in the twelve convalescent children given rapid intravenous plasma.

passage through the capillary walls[10,11,12].

Spence[13] has shown that changes in the electrolyte content of the plasma *in vivo* leads to measurable changes in cell volume, as may be noted in the slight difference between serum protein and hematocrit curves.

In the intravenous series also the serum protein was elevated at the end of the four hour period. By the eighth hour it had dropped approximately the initial value while in another sixteen hours it was equal to the four hour value. Our explanation was that the increased fluid pressure in the capillaries forced the plasma out into the tissues. Here the osmotic pressure was increased so that at the eight hour level, protein was drawn into the tissue space, and it was not reabsorbed for 16 hours. The hematocrit reading returned to nearly the initial value in 8 hours, this fact bearing out the increase in the tissue osmotic pressure[14,15].

When the final results obtained by the intravenous method are compared with those obtained by subcutaneous administration, it will be seen that they are quite different. If the plasma could be slowly injected intravenously it is probable that the results obtained would be more or less in line with those obtained from the subcutaneous route; however, it is hardly feasible to administer intravenous plasma slowly in the child. It should be noted that the amount of plasma injected was equal to approximately one half of the child's plasma volume. The plasma is usually injected in a period of fifteen minutes.

It was the clinical impression during these experiments that the patients receiving the plasma subcutaneously responded equally as well if not better than those receiving it intravenously. Rapid subcutaneous administration caused some sclerosing of the skin in two instances but this disappeared with no difficulty. The thickening of the skin in these areas would prevent subcutaneous injection being done daily, unless it were done slowly. It is therefore recommended that it be given slowly and only to patients with adequate skin surface. The thickening occurred in two of the series and disappeared with no treatment: the first in four days, the second in seven days. Rapid intravenous injection of plasma in a baby or a very young child is not without dangers[16,17,18].

The nature of the procedure is such that the fluid has to be rapidly pumped in, the time taken to give

it being only a small part of the time required for an adult intravenous infusion[3,4]. Several instances have been observed in this hospital in which an infant after receiving whole blood or plasma intravenously became cyanotic and dysneic, requiring artificial respiration and stimulants. We have never noted a prolonged untoward reaction from subcutaneous injection of plasma in the three year period we have used it. The trauma to the child is no greater by the slower subcutaneous method since he is stuck only one or two times while several punctures are necessary at times to give intravenous fluids; also the child does not have to be as uncomfortably restrained when plasma is given by the subcutaneous route. The circulatory system is not as overloaded as when administering in a very short time an amount equal to nearly fifty per cent of the plasma volume.

SUMMARY

1. Two series of convalescent children, ages 9 to 29 months, are presented: twelve cases receiving 10 c.c. of plasma per pound of body weight intravenously, and thirteen cases receiving 10 c.c. of plasma per pound body weight subcutaneously.

2. Hemoglobin, serum protein concentrations, and hematocrit determinations were done before and after the plasma was injected.

3. The results suggest that plasma proteins pass readily into the blood after their subcutaneous administration, and it is felt that when there is no emergency the subcutaneous route of plasma administration is as efficacious as the more difficult intravenous route in infants and very small children.

4. We suggest the subcutaneous route since clinically the children respond as well, the infusion dangers are greatly lessened, and less specialized equipment and skill are required.

The authors wish to acknowledge the assistance given this study by Miss Patterson of the Department of Research Chemistry, Dr. Harry Spence, and Dr. Benjamin Kagan.

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OVARIAN AGENESIS (TURNER'S SYNDROME) REPORT OF A CASE WITH POST MORTEM FINDINGS

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Only one post-mortem examination of ovarian agenesis has been reported in the American literature[5]. It is the purpose of this paper to report the significant pathological findings in a patient who had this syndrome and who died of typhoid fever.

The clinical aspects of a syndrome in women characterized by initial amenorrhea, hypoplasia of uterus and vagina, hypoplasia of breasts, shortened stature, scanty axillary and pubic hair, retarded osseous development, increased urinary excretion of gonadotropins, decreased urinary excretion of estrogens, androgens, and 17-ketosteroids, normal basal metabolic rate, normal insulin tolerance test, normal water diuresis test, osteoporosis, and the association of multiple congenital defects has been described in detail in the American literature by several authors[1-4]. The congenital defects most commonly noted are cubitus valgus, webbing of the neck, multiple pigmented nevi, visual defects, coarctation of the aorta, mental deficiency, deafness, syndactylism, scoliosis, and the shortening of one or more digits. It has been shown by autopsy examination[3,5] and by exploratory laparotomy[2,3] that the fundamental anatomical defect of the endocrine system in this syndrome is a failure of development of the fetal ovaries.

CASE REPORT

Mrs. H. D. was a 26 year old white woman who was admitted to the University of Virginia Hospital on October 8, 1947, with a four week history of the gradual onset of malaise, weakness, drowsiness, generalized aching, chills, fever, anorexia, nausea, vomiting, diarrhea, epistaxis, and progressive deafness. Her next door neighbor and her sister were under treatment in this hospital for typhoid fever. The rest of her family history was non-contributory. She was the oldest of five children, and had always been smaller than the other children her age. Except for nocturia since infancy and mumps at the age of 10 years, she had always been in good health. She had never had any mammary development, or cyclic uterine bleeding. An episode of scanty vaginal bleeding at the age of 14 years was apparently due to trauma. A sparse amount of pubic hair appeared during her teen-years, but she did not remember the exact date. She stopped growing in her late teens. At the age of 22 years she was married and apparently had no difficulty with sexual relations. However, intercourse was infrequent and was not enjoyable to the patient. She had never had any endocrine treatment.

Physical Examination: Temperature 103.6°. Pulse rate 128. Respirations 26. Blood pressure 124/80. Height 58 inches. Weight 85 pounds. The patient was a small, but well proportioned, drowsy young woman appearing to be seriously ill, and apparently about ten years younger than her stated age. She was slightly deaf and her voice was high pitched. The skin was pale, hot and dry, but the cheeks were flushed. There were many pigmented nevi scattered over the skin. There was a fold of skin extending from the mastoid region to the acromial process on the right. This did not interfere with the motion of the head. The carrying angle at the elbows was slightly increased. The pubic hair was sparse and confined to the labia and the center of the mons pubis. Only one or two strands of hair were present in each axilla. The breasts were flat, but the nipples were slightly protuberant. The mouth was dry and the tongue coated. The chest was clear. The heart was normal except for a soft blowing systolic murmur heard at the apex. The spleen and liver were both enlarged and palpable. The external genitalia were hypoplastic. The vagina was smaller and less elastic than normal. The uterus was small and of juvenile proportions. No ovaries or other masses could be palpated in the adnexal regions.

Laboratory Studies: Urinalysis was negative. Red blood count was 3.5 million. Hemoglobin was 10

grams per 100 cc. White blood count was 3,000. Wassermann test was negative. Repeated stool and urine cultures were negative for typhoid organisms. A positive culture for Eberthella typhosus was obtained from the blood on admission and gall bladder bile at autopsy. Widal agglutination was positive for E. typhosus. Cerebrospinal fluid was normal. Blood chemistry determinations, including calcium, phosphorus and phosphatase, were normal.

Course In Hospital: A diagnosis of typhoid fever was made and the patient was given the usual symptomatic treatment. She gradually became weaker and on the ninth hospital day started having convulsions. The following day she died in an attack of acute pulmonary edema.

Clinical Diagnosis: 1. Typhoid fever, with death due to pulmonary edema. 2. Ovarian agenesis, dwarfism, cubitus valgus, and webbed neck (Turner's syndrome).

AUTOPSY REPORT

Gross Description: The peculiar external abnormalities as noted in the physical examination were confirmed at autopsy.

Body cavities: Each pleural cavity contained 200 cc. clear yellow fluid. The pericardial cavity contained 50 cc. clear yellow fluid.

Cardiovascular system: Heart weighed 235 gms. and showed no abnormalities. The coronary arteries and the lower aorta showed surprisingly marked arteriosclerosis.

Lungs: Both lungs showed marked edema.

Liver: Weight 1925 gms. A few minute grey areas of necrosis were scattered throughout the parenchyma.

Spleen: Weight 440 gms. The soft red pulp consistent with acute splenic tumor was found.

Kidneys: The right kidney was absent. The left kidney weighed 325 gms. and from the inferior portion a ureter descended to the right side of the bladder. A second ureter ran from the superior portion of the kidney, crossing anteriorly to the first ureter, to the left side of the bladder. There were four arteries from the aorta to the kidney. A very large vein extended from the inferior portion of the kidney to the vena cava.

Adrenal glands: The left adrenal was in its normal anatomical position above the large left kidney and weighed 11 gms. The right adrenal was in the normal position and weighed 7.3 gms. The cortex of the adrenals measured only 1 mm. in thickness and was bright yellow.

Gastrointestinal tract: There were green elevated ulcers on either side of the ileocecal valve. This ulceration was more marked in the ileum. The mesenteric lymph nodes were greatly enlarged.

Pelvic organs: The uterus measured 6 x 4 x 2 cm. and the cervix made up about half the mass. No ovaries could be located. The Fallopian tubes and the vagina were small.

Endocrine glands: The pancreas, thyroid, parathyroids, and pituitary glands were grossly normal. The thymus and pineal were small.

Bone marrow: Bone marrow from the middle third of the femur was red and cellular.

Brain: The superficial blood vessels of the brain were engorged with blood, and the convolutions of the cerebral cortex were slightly swollen.

Microscopic Examination: Changes typical of typhoid fever were found in the organs of the body and will not be described.

Vagina: The vaginal epithelium showed moderate cornification with an average thickness of six cells.

Uterus: The endometrium was hypoplastic, but had a few scattered small endometrial glands (Fig. 1.) The Fallopian tubes were immature, and no ovarian tissue was demonstrated in sections of the adnexal regions (Fig. 2.).

Endocrine glands: There was slight atrophy of the pancreas, but the islet tissues were normal. There was lipid vacuolization of the zona glomerulosa of the adrenal cortex. The remainder of the adrenal was extremely congested and showed small hemorrhages. The thyroid gland was composed of well filled follicles lined with cuboidal epithelium. The parathyroids were normal. The thymus showed involution and some of the Hassall corpuscles were calcified. Many pigmented cells were present in the pineal body, but it was apparently normal.

Pituitary gland: The pituitary gland was cut sagitally and serial sections were made of one-half the gland. Sections at 200 microns intervals were stained by the Picro-Mallory Method I as outlined by McFarlane[6]. Counts were made of cells in representative areas of the sections with the following results: acidophiles 55%, chromophobes 43%, and basophiles 2%. 2740 cells were counted. Included as acidophilic cells were a large number of moderately sized yellow-red cells containing indistinct

granules in their cytoplasm. These cells tended to be concentrated in the center of the pars anterior, while the more typical acidophilic cells with marked granulation occurred predominantly about the periphery of the gland.

Anatomical Diagnosis: Primary ovarian agenesis; absence of ovaries, immaturity of genitalia and breasts, shortened stature, sparse pubic and axillary hair, cubitus valgus, webbed neck, congenital anomaly of kidneys, acidophilia of pituitary. Typhoid fever; intestinal ulceration in ileo-cecal area, mesenteric lymph node hyperplasia, acute splenic tumor, minute areas of necrosis in spleen and liver, hyperplasia of bone marrow, Zenker's degeneration of striated muscles. Pulmonary edema.

Fig. 1. Section through uterine wall showing marked hypoplasia of the endometrium.

Fig 2. Cross section of adnexa at the site of greatest thickening showing the absence of ovarian tissue.

DISCUSSION

The fundamental defect of the endocrine system in this syndrome is a congenital absence or failure of development of the ovaries[3]. In this patient no ovarian tissue could be found even though a careful search was made for aberrant ovaries. The thyroid gland, pancreas, thymus, and the pineal body were all normal. The changes in the pituitary were thought to be secondary to the absence of the ovaries. The changes in the adrenal were attributed to the typhoid fever.

In the absence of sufficient estrogens in the blood, the anterior lobe of the pituitary is stimulated to secrete an excessive amount of follicle stimulating gonadotropic hormone[4]. This results in an excessive amount of the gonadotropic hormone being excreted in the urine and gives us our most valuable single laboratory aid in the diagnosis of this syndrome[2-3]. There is still some difference of opinion as to whether this hormone is secreted by the eosinophilic or the basophilic cells of the pituitary. Autopsy examination of our patient, as well as of four previously reported patients[3] showed definite evidence of eosinophilic hyperplasia of the anterior lobe of the pituitary gland.

Because of the decreased excretion of 17-ketosteroids, which has been repeatedly reported in this syndrome[2-4], we examined the adrenals very carefully. The adrenal cortex did seem to be a little thinner than normal, but we were forced to conclude that no significant abnormality was demonstrable.

The cause of the adrenal cortical hypofunction in this syndrome is unknown. Albright[2] has attributed it to the fact that no estrogen is present to stimulate the pituitary to secrete luteotropic gonadotropic hormone which in turn stimulates the adrenal cortex. Hamblen[4] has suggested that since the ovary and the adrenal cortex have a common embryological primordium, a congenital disturbance of one would likely be associated with a congenital disturbance of the other. A direct correlation between the level of 17-ketosteroid excretion and the amount of pubic and axillary hair has been demonstrated[4]. Since this patient had a sparse amount of pubic hair and only a few strands of axillary hair, it is probable that her 17-ketosteroid excretion was reduced.

Attempts to explain the shortened stature on an endocrine basis have not been entirely satisfactory. Dwarfism may result either from a reduced rate of growth or from a premature cessation of growth. Since there is a delayed closure of the epiphyses[2] in this syndrome it is obvious that the growth period is not shortened. Some of the reported patients give a history of having been small at birth, and the vast majority have shown a retarded rate of growth throughout childhood[1-4]. Our patient had always been smaller than the other children of her same age. The fact that the administration of pituitary, thyroid, ovarian, testicular, and adrenal hormones has been tried, by numerous investigators, in varying dosage schedules without significant effect upon the height, is further evidence that the short stature is on a genetic rather than on an endocrine basis. Our patient was 58 inches tall, or 3 inches above the median height of those reported in the literature. As a general rule these patients range in height from 50 to 60 inches, but taller patients have been reported[3].

Estrogen administration to these patients results in uterine growth, vaginal cornification, and pigmentation and growth of the nipples. If the estrogens are administered cyclically it is possible to induce cyclic uterine bleeding. If progesterone is added during the later part of the course of estrogen treatment a progestational endometrium may be produced[4]. Thus it can be seen that the hypoplasia of the genitalia is on an endocrine rather than on a genetic basis. Unfortunately, the response of the breasts to substitution therapy is not always predictable and is generally disappointing. As a rule the growth is confined to the nipples and collecting ducts with little effect upon the parenchyma of the breasts[4]. Variations in the methods of administration may result in better cosmetic effects.

No satisfactory explanation has been offered for the frequent association of cubitus valgus, webbed neck, and other congenital anomalies with ovarian agenesis. It would seem likely that these multiple defects are the result of a severe metabolic process which affects the fetus during the second month. The information regarding the prenatal life of this, as well as of other patients, has been too scanty to permit any conclusions to be drawn. However, the possibility of the mother having had some infectious disease during the prenatal life of these patients warrants further investigation.

The osteoporosis found in so many of these patients has been compared to the osteoporosis in postmenopausal women, and attributed to the absence of estrogens by Albright[2]. That the osteoporosis is not related to hyperplasia of the parathyroid glands is indicated by the normal levels for serum calcium, phosphorus, and phosphotase, and also by the normal parathyroid glands found at autopsy in this and other patients.

Panhypopituitarism and severe chronic constitutional disease are the two other conditions which commonly cause statural and sexual retardation. In panhypopituitarism the stature is dwarfed, the pubic and axillary hair is absent, the patient is thin and weak, the bone age is markedly retarded and often the epiphyses never completely fuse, gonadotropic substances are absent from the urine, the excretion of 17-ketosteroids is markedly reduced, the basal metabolic rate is very low, the sensitivity to insulin is increased, the glucose tolerance curve is flat, and congenital anomalies are rare[2]. In severe constitutional disease there is a secondary depression of the endocrine glands that is generalized and incomplete. The constitutional disease is usually obvious.

SUMMARY

1. A case of ovarian agenesis proven by postmortem examination is reported. This is the second such case to be reported in the American literature with autopsy findings, even though there have been over seventy cases reported with clinical findings.

2. This patient presented the classical features of Turner's syndrome, namely: short stature, sexual infantilism, cubitus valgus, webbed neck, other congenital anomalies, and general good health.

3. At autopsy she was found to have no ovarian tissue, hypoplastic internal genitalia, a fused double kidney on the left side, and eosinophilic hyperplasia of the anterior lobe of the pituitary gland. The other endocrine glands were normal. She died of typhoid fever and presented the typical findings of that disease.

4. This syndrome is not uncommon and is frequently confused with hypofunction of the pituitary gland. The two conditions can be readily differentiated by clinical means.

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Addendum: Since this was submitted an additional autopsy examination has been reported by Atria, A., Sanz, R., and Donoso, S.: Necropsy Study of a Case of Turner's Syndrome. *J. Clin. Endocrinol.* **8**:397-405 (May, 1948).

Antivivisectionists Danger to Medical Progress.

Walter C. Kraatz, Ph.D., head of the department of zoology, University of Akron, Akron, Ohio, in an article in *Hygeia*, points out that antivivisectionists, who tried to sabotage research that saved thousands of lives during World War II, have been increasing their funds and activity since the war.

"Thousands of soldiers who would have died horrible deaths during World War II owe their lives to achievements made possible by experimentation on a relatively small number of dogs and other animals", Dr. Kraatz asserts.

"The discovery of how to use penicillin to prevent infection of a brain wound, the tantalum sheaths that allowed shattered nerves to heal where bullets had smashed delicate tissues, the metal plate which formed beneficent, permanent shields over great holes in the skull—these achievements and many others were worked out during the war by experimentation on animals.

"The work was brought to completion in secrecy in laboratories, secrecy necessary to preclude sabotage by antivivisection fanatics."

All bona fide laboratories of medical research abide by the strictest rules of humane treatment of animals and are open to inspection by qualified persons such as humane society officers, Dr. Kraatz emphasizes, adding: "Antivivisectionists might well turn in the direction of condemning deaths of animals caught in steel traps, where many lacerated animals starve to death."

Middle Age Affects Eyesight.

The effects of middle age on eyesight become increasingly important as people over 40 represent a larger part of the total population, Dr. Edwin B. Dunphy of Boston told the 40th Anniversary Conference of the National Society for the Prevention of Blindness in New York on March 16th. He said that in the past fifty years people over 45 years of age had risen from 17% to 26% of the total U. S. population. This age group is expected to reach 40% by 1980, he reported.

He said that glaucoma is the most serious eye problem of middle age and that cataract is next most important and early symptoms of cataract are often confused with those of glaucoma. He emphasized the importance of maintaining cataract patients' morale by stressing the fact that 95% of cases are curable by surgery.

"The most annoying and most universal inconvenience of middle age is presbyopia", Dr. Dunphy said. This is the reduced ability of the eye to accommodate itself to different focal distances and light intensities. He said presbyopia is due more to lack of elasticity of the lens itself than to weakness of the ciliary muscle, which contracts the lens.

THE CANCER COMMITTEE
MEDICAL SOCIETY OF VIRGINIA

Case Reports

During treatment for another condition, a physician discovered a small, smooth, firm, movable mass in the left breast of a 36 year old negro woman. His impression was fibroadenoma. He advised biopsy but the patient refused. A year and a half later, the patient saw the same physician again. He noted that the mass had enlarged moderately and urged biopsy. Again the patient refused. Fifteen months later (in January, 1949), she returned with a huge, ulcerating, bleeding carcinoma of the breast fixed to the chest wall and with multiple metastases to the axillary nodes. The immediate response to X-ray therapy was excellent.

An almost identical case history was reported recently from another tumor clinic in the State. A middle-aged white woman entered the hospital for biopsy of a freshly discovered mass in the breast. Becoming angry with a nurse over some fancied slight, she left the hospital before anything was done. When she finally returned some eleven months later, the entire breast was stony hard, brawny and attached to the chest wall. Half of the breast surface was occupied by a foul, necrotic, bleeding ulcer; the axilla was full of metastases and chest X-ray showed pulmonary metastases. The immediate response to X-ray administered in December, 1948, has been good.

COMMENT: In spite of the best efforts of the physicians attending them, these two women refused treatment when they had a 75 per cent chance of complete cure and have condemned themselves to certain death from breast cancer in the not very distant future. As everyone who treats much cancer knows, many people lose their lives each year because they have not been convinced of the danger from cancer. Many others allow their chance for cure to slip by because they have not learned to be alarmed by the minor symptoms that may mean early cancer. Others postpone seeking medical advice, though they suspect they have cancer, because they believe all cancer is hopeless.

We can never reduce the cancer death rate significantly until we have more successfully taught the public the facts about cancer. We can cure cancer only if the patients present themselves in an early stage of their disease. Every thinking physician will support and contribute to efforts to teach laymen the wisdom of periodic physical examination, the symptomatology of early cancer, the importance of early recognition of the disease, and the constantly improving cure rates.

A 42 year old white woman discovered a small mass in her right breast and immediately consulted her family physician. He confirmed the presence of a mass but advised that she watch it and return if it grew larger. She returned a month later, during which time the mass in the right breast had grown larger and a mass had developed in the left breast. Two weeks later, she was referred to a surgeon whose only pertinent positive findings were the two hard, movable lumps, the right one measuring 3 x 2 cm., the left one 1.5 cm. His impression was bilateral fibroadenomata. His advice was immediate bilateral excision of the masses for pathological study. This procedure was carried out two days later. The pathologist's report on the frozen section of the tumor in the left breast was benign fibroadenoma, but of the tumor in the right breast, adenocarcinoma. The surgeon proceeded at once with a right radical mastectomy. The axillary glands showed no tumor cells.

COMMENT: A mass in the breast constitutes an emergency demanding immediate investigation. The right radical mastectomy could and should have been done six weeks sooner. Nevertheless, the patient has an excellent chance for cure.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for February 1949 as compared with the same month in 1948, and for the period of January through February 1949 compared with the same period in 1948, is as follows:

	Feb. 1949	Feb. 1948	Jan.-Feb. 1949	Jan.-Feb. 1948
Typhoid and paratyphoid	5	9	7	19
Diarrhea and Dysentery	360	352	706	596
Measles	3,573	416	5,936	1,171
Scarlet fever	103	83	166	230
Diphtheria	20	12	33	49
Poliomyelitis	3	2	8	3
Meningitis	10	9	19	18
Undulant fever	5	7	9	14
Rocky Mountain spotted fever	0	0	0	0
Tularemia	2	1	5	18

INFLUENZA

For years the feeling has been widespread among physicians and public health workers that the world was due for another pandemic of influenza similar to the one occurring in 1918. At unpredictable intervals such waves have swept through the world, and are the most devastating of all modern plagues. The pandemic of 1918 was accompanied by a death rate which far exceeded the war casualties of all nations involved in World War I.

In the pandemic of 1936-37 the virus was widely distributed and the attack rate comparable to that of 1918, but the number of deaths was relatively small and little public apprehension was aroused. It is the wave of 1918 that is remembered with the associated feeling of panic. The reason for the variation in the virulence of virus strains constitutes one of the unsolved problems of infectious diseases.

With this in mind, in the Fall of 1948, the Surgeons General of the Army, Navy, Air Forces and Public Health Service, developed a plan for the establishment of an Influenza Information Center at the National Institutes of Health at Bethesda, Maryland. This center administers in this country the World Health Organization Influenza Program whose aim is the protection of the people of the world from a pandemic of influenza as last experienced in 1918. The Information Center collects information as to the occurrence of an outbreak of suspected influenza and aids in the isolation of the virus as a means of determining the prevailing strains for use in the production of vaccine. Local health departments and the physicians of the State have a definite part to play in this program, since it is they who first will have knowledge of local outbreaks of suspected influenza.

Fortunately these facilities have not had extensive use at the present writing. Although there have been reports of increased numbers of cases on the Continent of Europe, the condition has not become pandemic, nor does it appear likely to do so. Allowing for exceptions to the rule, the peak incidence of influenza usually comes in late December, January and February. It is, therefore, reassuring to note that the number of cases of influenza reported in the United States March 2nd had dropped in three successive weeks. In the four weeks ending February 26th, the incidence of reported cases was one-half of the median for the years 1944-48. And so, though in preventive medicine we can never imperil our health security by lack of vigilance, we can feel a sense of relief for the present at least.

The efficacy of vaccines containing influenza virus has been investigated since 1936 (Chenoweth). Horsfall in 1941 showed that the subcutaneous injection of virus vaccine led to a significant reduction in the incidence of influenza A. During the epidemic of influenza A the incidence of the disease was about 75% lower in vaccinated than in unvaccinated persons. The disappointing feature is the temporary nature of the immunity gained through such vaccination. Following subcutaneous administration of influenza vaccine, antibodies begin to appear in approximately a week, reach maximum levels during the second week, remain constant for a month and then gradually decline (Hirst 1942). There is no agreement as to the duration of immunity following vaccination, estimates varying from two to twelve months.

From the viewpoint of epidemiology, treatment, and control, we must remain vigilant that we may marshal our forces at the first evidence of invasion.

MEDICAL SOCIETY OF VIRGINIA
THE COUNCIL

March 4, 1949

The Council of the Society held its winter meeting on March 4, 1949, at the Society's office in Richmond, with the president, Dr. M. Pierce Rucker, presiding. Others attending were: Dr. Charles Outland, vice-president; Drs. R. B. Bowles, C. L. Harrell, Guy W. Horsley, W. J. Ozlin, J. T. T. Hundley, R. P. Bell, Jr., V. W. Archer and James P. King, councilors; Dr. L. J. Roper, State Health Commissioner; Dr. Ennion S. Williams, associate editor; Drs. J. M. Hutcheson and H. B. Mulholland, American Medical Association delegates; Dr. J. M. Emmett, chairman, committee on Public Relations, and Mr. Henry S. Johnson, director.

Motion was made that the Council dispense with reading of minutes of its last meeting, which related to the special assessment by the American Medical Association for its National Educational Campaign. Dr. Rucker stated that the Society has the machinery in its Public Relations Department for carrying on the program and he was naming Dr. Hundley as State Chairman. Asked if he had a statement to make, Dr. Hundley said he had worked out no details at this time, but gave the following contemplated steps worked out at a meeting of the Public Relations Committee the evening before:

1. Push collection of AMA assessment.
2. Use of existing organization with
   a. State Chairman
   b. Public Relations office
   c. Executive Secretary and state officers
   d. Councilors
   e. District Councilors
   f. Local society officers and committees
3. Possible replacement of inactive personnel in district councils where necessary or advisable.
4. Publicity and educational material to be available through and distributed by the Public Relations Office.
5. Immediate creation of a speakers' bureau of both medical and lay persons to address various groups and organizations.
6. Active and close cooperation with and utilization of the Woman's Auxiliary.

Dr. Horsley asked what should be done about members of district councils who showed no special interest in the work. Dr. Emmett replied that he thought each councilor could better evaluate the services of the district councilors and he felt each councilor should appoint these as he sees fit.

Dr. Emmett then presented the following report from the Public Relations Committee:

In view of the grave situation with which we seem to be faced, several things seem to be indicated:

1. Members of the Medical Society of Virginia may need to be alerted to an all out effort on the part of the medical profession and to engage the efforts of other professions, business, civic groups, etc., if our point of view is to be understood, shared, and effective in the 81st Congress. One possible approach to this might be a resolution from the Council to each local medical society, recommending more frequent meetings than are normally scheduled by local societies.
2. At least one meeting devoted to a discussion of the Socio-economic aspects of medicine with particular reference to compulsory health insurance, to which meeting a cross-section of respective lay-leadership is invited (if such has not been done).
3. Set up the necessary machinery to cooperate with the efforts of our state medical society under the direction of our state educational campaign director.
4. To embark upon a program of education of the individual membership of the society and engage his assistance in the campaign.
5. The creation (if one does not already exist) of a local "grievance committee" to handle all criticisms of members of the respective medical societies.
6. Create a grievance appeal committee in the Medical Society of Virginia to which matters of this nature may be referred by similar committees of the local medical societies in case an appeal is desired or in case local grievance committees fail to function.

The Committee then offered the following motion:

1. That there be constituted a Grievance Committee of the Medical Society of Virginia.
2. This Committee is to consist of five members to be appointed by the president.
3. The duties of the Grievance Committee will be the investigation of complaints of improper, unethical, or unfair practice of medicine, or of overcharging. It is contemplated that the Grievance Committee of the Medical Society of Virginia will act mainly on those cases appealed from the decisions of a similar committee of a constituent society, but if there is no corresponding committee of a constituent society, the Grievance Committee of the Medical Society of Virginia is empowered to act. Complaints may originate from either members of the medical profession or the lay public.
4. The Grievance Committee shall be authorized to publish rules of procedure.
5. Decisions of the Grievance Committee shall be given to the complainant, the defendant, and to the Council of the Medical Society of Virginia.

After discussion, it was moved and carried that a committee of three be appointed by the President to in-

corporate these suggestions into an appropriate resolution to be presented to the Council after lunch. The President appointed Drs. Hundley, Williams and King.

Recess was then taken for lunch.

Resuming business, it was stated the Society had received a bill from the Middle Atlantic States Regional Conference on Medical Service for a contribution of $150.00 but the secretary advised that this had not been included in the budget as the Society was not called on for it last year. It was moved and carried that this amount be paid out of the treasury and Dr. Archer felt it should be included in next year's budget as it was a recurrent item.

Dr. Hundley presented the following resolutions prepared by the committee of three:

The Council of the Medical Society of Virginia in meeting 4th of March, 1949, recommends to each component society in order to arouse enthusiasm and direct effort toward effective mobilization of public opinion to the dangers of current trends in the regimentation of American life and the practice of medicine that:

1. The county societies consider the advisability of more frequent meetings;
2. That at least one meeting each year be devoted to a discussion of medical public relations activities, to which meetings prominent citizens, civic leaders and press representatives be invited; and
3. That increased efforts be made to inform the individual society members of the dangers of the medical proposals and legislation now under consideration of Congress.

Be it further recommended that each constituent medical society appoint a Grievance Committee to investigate complaints relating to unfair practices or instances of overcharging, whether these complaints originate within the profession or from the lay public. This committee will function on the local level and appeals to a similar committee of the Medical Society of Virginia will be available in instances where local adjustments cannot be effected satisfactorily.

It was moved and carried that these be adopted and the secretary was instructed to send a copy to each society and councilor.

A letter was presented from Dr. Louis H. Bauer, secretary-treasurer of the World Medical Association, inviting this Society to become a Founder-Sustaining member and to contribute for its support an amount in proportion to its membership and financial status. Offer was also made to send a speaker to the next meeting who might speak on this subject for 15-20 minutes. After discussion, it was moved by Dr. Hundley, seconded by Dr. Archer, to table this letter but to offer the Association an opportunity to have a speaker appear before a general session of the next meeting of the Society.

Dr. Rucker said Dr. Lull had advised that on the basis of its membership on December 1, 1948, the Society is entitled to three delegates in the House of Delegates of the American Medical Association for 1949 and asked if the members had any suggestions. Dr. Harrell moved that this be left to the President but that he might consult with the present delegates and Dr. Walter Martin, who is a member of the A.M.A. Board of Trustees. This raised the question about paying the third delegate's expenses in attending sessions of the Association, as provision had not been made for this in the budget. It was moved, seconded and carried that the same amount be allowed for the new delegate as for each of the others.

The Virginia Advisory Legislative Council was authorized by the 1948 General Assembly of Virginia to make a thorough and complete study of the provisions of the insurance laws of the State, and the Society was among the organizations asked to write out any suggestions to present to the committee in charge. Dr. Harrell said that hospital insurance will not pay for tuberculous patients and, when people take out hospital insurance they do not know what kind of sickness they will have. It was thought the committee was not referring to this kind of insurance but it was suggested that the letter be turned over to the Legislative Committee.

Upon request of Dr. Emmett, Dr. Caudill, president-elect, who was in Florida, had written with regard to holding the 1950 meeting of the Society at White Sulphur Springs, West Virginia. This suggestion was tabled, to be brought up at the annual meeting.

Several letters with regard to medical care and hospitalization and one from the Tennessee State Medical Association concerning medical and hospital benefits for veterans were ordered to be acknowledged and referred to the Public Relations Department.

Dr. Elmer Hess, chairman of the American Medical Association Committee on Hospitals and the Practice of Medicine, had written with regard to creating a standing committee on Hospital Relations for the purpose of attempting to iron out any controversies which might occur in the state concerning the practice of medicine and hospitals. After discussion, Dr. Archer moved, seconded by Dr. Harrell, that this be tabled.

Dr. Rucker told of a nurse recruitment campaign adopted by North Carolina which had proved successful in that state and this news release was referred to the Virginia State Nurse Association.

Dr. Dickinson of the Bureau of Medical Economic Research of the American Medical Association had asked if the Society had adopted resolutions concerning fees for life insurance examinations and attending physician's statement. No resolution had been adopted by the Society and Dr. Williams said the Life Insurance Company of Virginia had adopted none.

A letter was presented from Dr. J. R. Kight in which a recommendation was presented from the Department of Gynecology and Obstetrics of DePaul Hospital, Norfolk, that a state law be passed requiring all obstetric cases to have serologic tests performed and that such tests be required for the filing of a birth certificate, similar to

the present prerequisite of premarital blood tests for a marriage license certificate. This was ordered referred to the Legislative Committee.

A report was presented from the Committee on Rebates of the American Medical Association, and it was felt this could be handled through the local societies with the assistance of the Ethics Committee.

Dr. Rucker said Dr. E. G. Gill of Roanoke, had written him, suggesting the appointment of a committee on Conservation of Sight and Prevention of Blindness and he had replied that he would bring this suggestion before the Council. Motion was made by Dr. Archer, seconded by Dr. Harrell, that the president appoint such a committee.

Under new business, Dr. Hutcheson offered the following motion: That a questionnaire be sent to each gubernatorial candidate concerning his views on compulsory health insurance on the plan now proposed in Washington, and that replies be made accessible to doctors throughout the state. This was adopted and referred to the chairman of the Public Relations Committee to be sent out over his name.

Dr. Archer said he had just talked to Mr. Christensen with Advertising Displays and Decorations, who had set up the scientific exhibits last year, and for this year he had given a price of $1,500.00 which was $300.00 in excess of the committee's budget, and he wished the Council to advise him what to do. He felt that the exhibits last year were excellent and doctors generally seemed pleased with the set up. Dr. Harrell moved that this item in the budget be increased to $1,600.00 so as to allow an additional $100.00 for incidental expenses. This was seconded and carried.

The secretary was instructed to ask Dr. Lawrence, Washington representative of the American Medical Association, to put the names of all the councilors on his mailing list to receive data he sends out.

It was stated that Dr. Hundley would have some expenses in connection with his work as chairman of the National Educational Campaign for the State and it was decided he should be reimbursed out of the Public Relations Department budget.

Dr. Rucker said he would like for Drs. Horsley and Porter to serve as the Finance Committee and prepare the budget for the annual meeting.

Adjournment followed.

AGNES V. EDWARDS,
Secretary.

Approved:
M. PIERCE RUCKER,
President.

The Grievance Committee appointed by Dr. Rucker is composed of Dr. J. M. Emmett, Chairman, Dr. W. L. Powell, Dr. Guy R. Fisher, Dr. H. B. Mulholland, and Dr. Roshier W. Miller.

The President also appointed the following as the Committee on Conservation of Sight and Prevention of Blindness: Dr. E. G. Gill, chairman, and Drs. W. W. Gill and A. A. Burke.

Floral Eponym

Lettsomia

LETTSOM, JOHN COAKLEY. 1774-1815

Lettsom was the well known Quaker physician and the founder of the Medical Society of London. He is well remembered as the friend of many American doctors who visited London during his time. When the Pennsylvania Hospital was started, he sent a set of handsome anatomical plates.

Lettsomia is a genus of about 40 species of scandent shrubs of tropical Africa and East India. L. capitata is a beautiful vine with deep pink flowers that may be grown in Southern Florida.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

National Educational Campaign in Opposition to Compulsory Health Insurance.

A conference was called by the Coordinating Committee from the Board of Trustees of the American Medical Association in Chicago, February 12th.

Invitations were extended (expenses paid) to two representatives from each state medical society. Dr. John T. T. Hundley, Councilor, 6th District, Lynchburg, and Miss Agnes V. Edwards, Executive Secretary, were there.

This conference was unusually well attended and considered the campaign to defeat compulsory health insurance on the national, state and local levels. The Board of Trustees, the Coordinating Committee, the Public Relations firm of Whitaker and Baxter and these representatives spent the entire day in a discussion of this campaign.

The work of the firm of Whitaker and Baxter will be largely that of developing strategy, procedures and materials, rather than "lobbying in Washington". Emphasis was placed on the positive program of the medical profession as embodied in the 12-Point Program of the American Medical Association.

As an observer, one was impressed with several items: (1) With the proposals of Whitaker and Baxter; (2) The enthusiasm with which the entire program was accepted by the representation from the states; (3) The general agreement and accord reached by the delegation; (4) The recognition and acceptance of the leadership and assistance offered by the American Medical Association in this program, and (5) the obvious fine atmosphere of *esprit de corps* in which this campaign is being approached.

The following day representatives from approximately 25 states gathered for another conference on the subject of implementing this program on a state and local level.

For this, there was no set program, but instead, just "shop talk". The existing and possible setups in the representative states were discussed in detail. The merits of specific activities were debated and in general, this proved to be a highly instructive and helpful session. The minutes of this meeting were sent to the represented states.

It was felt that the conference called by AMA could be helpful to the representative campaign chairman and in the meantime, Dr. John T. T. Hundley of Lynchburg, has been chosen as the state campaign chairman of the Medical Society of Virginia.

Public Relations Committee Meeting.

A regular meeting of the Public Relations Committee was held at Ruegers Hotel, Thursday evening, March 3. It was attended by all members of the committee and Dr. M. Pierce Rucker and Dr. John T. T. Hundley of the 6th Congressional District, Lynchburg.

From a three-hour discussion, several points were considered of sufficient importance to be recommended to the regular meeting of the Council the following day. Some of these are as follows: (1) More frequent meetings than are normally scheduled by local societies. (2) At least one meeting of each local medical society during the current year to be devoted to a discussion of the Socio-Economic aspects of medicine with particular reference to compulsory health insurance. The advisability of having leadership of the lay-public in for these meetings was pointed out. (3) Set-up the necessary machinery to cooperate with the efforts of the membership of the Medical Society of Virginia, under the directorship of our state educational campaign chairman, in opposing compulsory health insurance. (4) To renew our efforts in a program of education of the individual membership of the society and engage his assistance in this campaign. (5) The creation of "grievance committees" (if these do not exist) to deal with complaints from patients of members of the Medical Society of Virginia.

Speaking Engagements and Speakers.

Following the pattern of the state-wide Public Relations Conference in Richmond, January 15, it is gratifying to observe how many local medical societies are inviting in representation from other professions, business and civic groups, on discussions of the Socio-Economic aspects of medicine. Appearances before other than medical groups are most desirable. Speaking engagements and discussions can be very effective in molding public opinion and opposing government medicine. It is, therefore, hoped that each medical society and each doctor will be on the alert for every such opportunity that may be uncovered and that the consensus of the group may be secured in the form of a resolution or request which may be passed on to Washington, American Medical Association, Whitaker and Baxter, and the press, etc., through the department of public relations.

Although, in the near future, there may be a specific request from the chairman of the educational campaign in this regard, this means is being employed to urge every member of the Medical Society of Virginia to be thinking over capable speakers, both in and outside of the profession, who would be willing to make the necessary preparation to serve in this capacity.

Already there is evidence of great support of the point of view of the medical profession with respect to any approach to socialism here. It is urgent that people of Virginia give intelligent consideration to the immediate and ultimate effects of compulsory health insurance,

and that these views be made known to our representation in Washington.

Another Danger.

It appears that the 81st Congress is now giving consideration to the broadening of the Social Security Act to include weekly payments in the event of disability. If cash weekly payments were included for disability, this would necessitate a great array of federal employees not necessarily well trained for this highly technical work as claims adjusters. This is but another evidence of attempts being made to socialize a service to the American people. It should be regarded as another step toward placing in the hands of the Social Security Administration, responsibility of administering a Medical Care Program. (See, HR 2892 and 2893.)

NATIONAL EDUCATION CAMPAIGN AMERICAN MEDICAL ASSOCIATION

TO THE DOCTORS OF VIRGINIA:

American Medicine faces its greatest crisis. The issue is clearly drawn. On one side is the medical profession, the practicing doctor, who is fighting to maintain his personal and professional integrity. Aligned against him are the forces of collectivism, of bureaucratic control, who desire to impose State controlled medicine on the American Medical profession and on the American people. Between the two is the public, generally uninformed, often gullible, who will be the real losers if the medical profession fails to win.

The battle is joined. The American Medical Association has accepted the challenge and is entering upon an all-out fight to inform the public of the dangers of State medicine and the advantages of the private system of medical practice. The AMA cannot win, but the doctors of America, with the help of their friends, can.

I have been appointed State Chairman for Virginia. It will be my task, working through the State and local medical societies, to direct the fight in Virginia. There is nothing I can do alone, but with the help of every Virginia doctor, and our lay friends, we can win this fight. And win it we must, or we will be slaves of a Washington bureaucracy.

In the next few months you will hear from me many times. I am confident I will not call in vain.

Mobilize your resources. Contact your friends. Work through your lay organizations. Send for material you can and will use. Speak before lay groups. Influence your patients.

In that way we will win; and win we must.

JOHN T. T. HUNDLEY, M.D.,
Chairman, State Educational Program
Allied Arts Building, Lynchburg, Va.

American Medical Association Assessment for Educational Campaign.

According to the list published in the March issue of the *Monthly*, there were 487 Virginia doctors who had contributed to the special assessment for the American Medical Association Educational Campaign. The following list of 536 contributors, which was closed on March 18th, brings the total number of contributions from Virginia to 1023.

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Dr. J. B. Nichols
Dr. C. D. Nofsinger
Dr. H. C. Padgett
Dr. C. H. Peterson
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Dr. Churchill Robertson
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Dr. Robert J. Scott
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Dr. Garrett Dalton
Dr. W. P. Davis
Dr. W. Frederic Delp
Dr. Charles Duncan
Dr. J. J. Eller
Dr. H. D. Fitzpatrick
Dr. G. E. Godman
Dr. C. C. Hatfield
Dr. Mike Hines
Dr. Lloyd F. Hobbs
Dr. Rector S. LeGarde
Dr. J. C. Martin
Dr. Milton Millman
Dr. T. E. Painter
Dr. Richard C. Potter
Dr. P. D. Stout
Dr. D. D. Vance
Dr. T. H. Worrell

Tazewell

Dr. H. H. Ballard
Dr. R. E. Bower
Dr. R. Brittain
Dr. Harry L. Day
Dr. P. P. Ferraraccio
Dr. Tillou Henderson
Dr. W. C. Jackson
Dr. Mary E. Johnston
Dr. Frank A. McCue
Dr. Andrew D. Parson
Dr. H. A. Porter
Dr. James M. Peery
Dr. J. A. Robinson
Dr. John H. Sproles
Dr. A. M. Tiernan
Dr. G. D. Vermilya

Warwick

Dr. E. L. Alexander
Dr. Guy C. Amory
Dr. M. B. Beecroft
Dr. C. B. Courtney
Dr. A. A. Creecy
Dr. Murray Dick
Dr. Everett C. Eickhoff
Dr. Barnes Gillespie
Dr. Melvin L. Horne
Dr. E. B. Mewborne
Dr. Samuel H. Mirmelstein
Dr. G. Colbert Tyler
Dr. Stanley W. White
Dr. William H. Windley

Wise

Dr. E. J. Benko

Bibliotheca Obstetrica

Hippocrates (460-375): Opera: *Basileae, Andreas Cratanderus,* 1526, 494p. 32 cm. (M.L.)

The "Father of Medicine" was a poor obstetrician. What little of obstetrics that is found in his works is wrong. Not only that but many of these errors persisted for centuries and in some instances impeded the progress of the obstetrical art. He taught that lacerations of the perineum were to be avoided by softening the tissue with emollient and relaxing douches. If a laceration did occur no attempt was made to repair it. Puerperal fever was the result of suppression of the lochia. He did recognize that the disease could occur in epidemics. "Sneezing" the patient was used for retained placenta, a practice still used in the mountains of Virginia. He recommended intra uterine douches to remove bits of retained placenta. He taught that the pubic bones separated to permit the birth of the infant and that the fetus made his way through the genital passages by his own power. How a stillbirth was delivered he does not say. Perhaps there were no stillbirths in those times. The Hippocratic teaching, that a seven months fetus had a better chance of surviving than an eight months fetus, persisted until the time of Mariceau.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—MRS. R. M. REYNOLDS, Norfolk
President-Elect—MRS. C. E. HOLDERBY, Hilton Village
Recording Secretary—MRS. T. S. CHALKLEY, Richmond
Corresponding Secretary—MRS. CHARLES LUPTON, Norfolk
Treasurer—MRS. REUBEN SIMMS, Richmond
Parliamentarian—MRS. H. W. ROGERS, Norfolk
Historian—MRS. M. H. HARRIS, West Point

National Meeting.

A few more months, and the members of the Woman's Auxiliary to the American Medical Association will be arriving in Atlantic City, New Jersey, for their annual convention, June 6th to 10th.

Have you made your reservations? If not, send your request *at once* to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, New Jersey.

Danville-Pittsylvania.

The main project for the years 1949 and 1950 for the Auxiliary to the Danville-Pittsylvania Academy of Medicine is the raising of an $1,800.00 subscription to the Memorial Hospital enlargement fund to supply one of the reception rooms planned for the new nurses' wing. A benefit movie was sponsored at one of the local theatres and this proved to be quite a success. Rummage sales have been conducted and are planned for future dates. Almost seven hundred dollars had been raised at the time this report was sent in.

The auxiliary has also raised $200.00 which was used as a gift toward the education of a pre-medical student.

Under the able leadership of Mrs. John L. Jennings, president of this Auxiliary, interest, cooperation, activities and attendance among the membership has exceeded that of any year in the history of this organization. All widows of deceased physicians in the community are included in the membership.

At the opening meeting of the year, October 5, 1948, at which twenty-five members were present, Dr. Thomas Moran, Pathologist at Memorial Hospital, spoke on the Blood Bank at the hospital. His interesting talk traced step by step the mechanism involved in rendering this service.

On January 7th the Auxiliary had an attendance of twenty-eight members and seven guests. Mr. C. S. Wheatley, attorney at law, spoke on Socialized Medicine and gave a detailed picture of the Murray-Wagner-Dingell Bill to be presented at the 81st Congress. He also gave a detailed account of socialized medicine in England, France and Germany.

MRS. CARL W. WHITE,
Publicity Chairman

Arlington.

This Auxiliary held a joint meeting with the Arlington County Medical Society on February 17th. The guest speaker was Dr. Marjorie Shearon, editor and legislative counselor, who gave a very interesting and informative talk on the National Insurance Bill. She also stated her opposition to H. R. Bill 782 to be presented in Congress this year. Great interest was aroused and all members were advised to write their congressmen opposing this bill.

EILEEN B. GILLIGAN (MRS. JOHN H.)
Publicity Chairman

BOOK ANNOUNCEMENTS

Psychodynamics and the Allergic Patient. By HAROLD A. ABRAMSON, M.D., F.A.C.A., Associate Physician for Allergy, The Mount Sinai Hospital, New York; Consulting Physician for Allergy, Sea View Hospital, Staten Island; etc. With a Panel Discussion. The Bruce Publishing Company, Saint Paul and Minneapolis. 1948. An Official Publication of the American College of Allergists. ix-81 pages. Cloth.

The Old Virginia Gentleman and Other Sketches by GEORGE W. BAGBY. Edited and arranged by his daughter, Ellen M. Bagby. Richmond, Virginia; The Dietz Press, Inc. Price $3.50.

The first edition of Dr. Bagby's works appeared in 1884-85. Twenty-five years later, Thomas Nelson Page edited the second edition with an appraisal of Dr. Bagby's literary works. In 1938 the third edition appeared with an introduction by Douglas Southall Freeman. Since then a fourth edition has been exhausted. The present edition contains the preface of Thomas Nelson Page, the introduction by Douglas Southall Freeman and recollections of Dr. Bagby by Mrs. Kate Burwell Bowyer of Avenel. It was at Avenel that Dr. Bagby received his inspiration for "The Old Virginia Gentleman" a lecture that he delivered over

the State in the interest of the Virginia Historical Society.

That so many editions have been necessary attests the growing literary stature of George W. Bagby. His stories of antebellum and reconstruction days in Virginia are masterpieces, and are especially timely in these days of world reconstruction. The format of the fifth edition is very attractive, more so than the former editions, and altogether it makes an important item of Virginiana, especially for the doctor.

Symptoms in Diagnosis. By JONATHAN CAMPBELL MEAKINS, C.B.E., M.D., D. Sc., LL.D., Formerly Professor of Medicine and Director of the Department of Medicine, McGill University; Formerly Physician-in-Chief, Royal Victoria Hospital, Montreal; Formerly Professor of Therapeutics and Clinical Medicine, University of Edinburg; etc. Second Edition. Baltimore, The Williams & Wilkins Company. 1948. xv-542 pages. Illustrated. Cloth. Price $7.50.

Lung Dust Lesions (Pneumoconiosis) versus Tuberculosis. By LEWIS GREGORY COLE, M.D., F.A.C.R., Former Professor of Roentgenology, Cornell Medical College, Past President of American Roentgen Ray Society, etc. White Plains, New York, American Medical Films, Inc., 1948. xxii-474 pages. Profusely illustrated. Cloth, Price $10.00.

The author states that his study of this subject covers a period of fourteen years of intensive work in collaboration with his son, the late William Gregory Cole, whose unfortunate death occurred before the publication of the present volume. Some reports of this study have already been published, including a preliminary report in 1940 under the John B. Pierce Foundation of which Dr. L. G. Cole was Director of Silicotic Research. Several articles have also appeared in special medical journals.

In the present volume, the cooperation of some seventy distinguished pathologists, roentgenologists, and others is acknowledged, these being widely scattered throughout the United States and Canada. They have contributed specimens and roentgenograms obtained from many different types of industries.

The author dislikes the use of the term silicosis to indicate dust lesions generally on the basis that silica dust is the usual offender. He prefers the term pneumoconiosis as the general term because so many varieties of dust are concerned and feels that only the lesions of silica dust should be termed silicosis.

He states that the problems encountered in the diagnosis of lung dust lesions concern the clinician, the roentgenologist, and the pathologist. The diagnosis rests largely upon the roentgenogram. Six different types of lesions are described, with varied pathology and roentgen findings, and he states that these types can be best identified on the roentgenogram if their individual pathologic change is understood. While his position in the field of roentgenology needs no comment, he is not classed as a pathologist. However, he has devoted a vast amount of time to the latter subject as is attested by his writings. Therefore, he is in a position to discuss the pathology along with the X-ray findings in a highly competent manner, and the book contains numerous photographic, photomicrographic, and roentgenographic illustrations. These are correlated and indicate the painstaking and excellent work which has been done on the subject.

While the whole study is primarily that of dust lesions, the fact that silicosis predisposes to a complicating tuberculous infection justifies a discussion of this latter disease in this relation. The picture is confused from the diagnostic standpoint on account of the similarity of the pathological processes in the two conditions and resultant confusing x-ray findings. Also, pure tuberculosis may sometimes simulate pneumoconiosis. Differential points are discussed at some length. Differentiation of other lung conditions is likewise discussed.

One of the aims of the study is to bring out certain information which may help to settle justly the economic and social aspects of dust lesions. For instance, some of the types described produce few or no symptoms while others are extremely dangerous to the patient, which makes identification of the particular type highly important.

Many other features are discussed which cannot be taken up here, but which contribute to the value of the work. Its simplicity of expression and clarity of description make for interesting reading. Reasons are given for any opinions not in conformation with accepted standards. It contains a wealth of information which should be valuable to anyone interested in the subject.

D. D. TALLEY, JR.

EDITORIAL

Why I Dislike Compulsory Health Insurance

THE health bills now before Congress present a vital issue to every man, woman and child in the United States. Once the federal government embarks on this enterprise there will be no turning back. It is a big personal question. For that reason I have discarded the editorial "we". I am discussing it not as an editor, nor as a Doctor of Medicine, but as a citizen.

In the first place I dislike *compulsion.* It was from such manmade compulsion that my forefathers fled Europe. It was for freedom from such compulsion that my fathers fought. It is for such freedom that I am willing to fight and die, if need be.

In the second place, the plan is too costly. Besides the present cost of medical care, there will be malingerers and hypochondriacs for which the plan has no checks. In fact, it actually encourages both with its cash bonuses for sickness and unemployment. Then there will be an army of clerks, filing clerks, inspectors, and administrators, variously estimated at from 300,000 to 500,000 who will have to be paid out of my (mine and yours) medical dollar. Every detail of my medical history will be a matter of public record. Had there been such a system in operation in Rotterdam in Erasmus' time, there would have been no argument as to whether he had congenital or acquired syphilis, as occurred sometime ago when his bones were moved to make room for an addition to a church. I can see the glee with which the modern bureaucrat would have unearthed this information concerning the great Tolerator of Rotterdam.

For three years there will be no benefits—only payroll deductions. The six billion dollars raised in this manner will be devoted to building health centers all over the country. After three years the plan will be put in operation and the payroll deductions will be hiked. Six per cent is the figure most frequently mentioned, but there is no limit set by law. The deficit (and all countries where the plan is in operation have deficits) will be met by general taxation. National medical care after ten years experience is costing New Zealand 46 per cent of its entire tax revenue.

In the third place I would get a poorer grade of medical care. S-5 like its predecessor, the Wagner-Murray-Dingell bill was written by the International Labor Organization and conforms to the same international pattern. The bill provides that rules and regulations be written by the Administrator of the Social Security Agency with the advice of five members of the National Health Insurance Board. This means that the American people will be signing a blank check if this bill passes. It is only by knowing what is in the minds of the Administrator of the Social Security Agency and the I. L. O. that we can form any idea of what we are getting into. What has happened in other countries that have I. L. O. laws ought to be a warning to us.

Under the leadership of Bismarck, Germany was the first country to adopt socialized medicine. In fact Germany was the model for the I. L. O. Not only was it the cause of Germany losing its unquestioned preeminence in medicine but in no other place in the history of the world have medical men committed such crimes against humanity as were done by Germans in World War II.

In Great Britain medicine was nationalized on July 5, 1948, and already obstetric and dental anesthesia and hormone treatment have been proscribed as being unnecessary. Much time and money are devoted to fitting teeth, eye glasses and wigs.

For the past thirty years America has led the world in the quality and quantity of medical care its people have received under free enterprise system. Why experiment, especially in view of how the experiments in other countries have turned out?

In the fourth place, it will place in the hands of a political appointee, the Director of the Federal Security Agency, the expenditure of the vast sum of over 20 billion dollars annually with no checks whatever. Already the employees of this agency have spent nearly a million dollars for propaganda. Already a Congressional Committee has called attention to the illegality of such action. In 1947, the F. B. I. investigated these irregularities and made its report to the Attorney-General, and there the matter lies. These bills, if they pass the Congress, will be a long step towards the Police State. Our health, education and welfare will be in the hands of a man who arbitrarily makes his own rules regardless of the laws passed by Congress.

A New Approach to Getting a Doctor for Rural Areas

IN many ways the dearth of doctors in country districts is like the weather. Everyone talks about it but no one does anything about its correction. In at least one county in Arkansas the Methodist Church has undertaken to remedy the situation in a practical manner. We have the following notice from The Board of Missions and Church Extension of the Methodist Church:

"The Methodist Church is looking for a physician to settle and serve Newton County, rural northwestern Arkansas, where 10,000 are without a doctor or nurse, and the nearest hospital is twenty-five miles from Jasper, the county seat.

"Five years ago the Methodist Church organized the 'Newton County Larger Parish', built a stone church in Jasper, and now has two experienced pastors carrying on a program of evangelism, religious education, and community service. The ministers cooperate with the agricultural agent and others in economic betterment, have a farmer's cooperative, etc.

"If a doctor can be found for the community, the Methodist Church will organize community support for the erection of a clinic, with a laboratory and a few beds, and will subsidize the establishment until the practice is built-up. The doctor will reside in Jasper, will be related to public health and school health, and the state will probably supply a nurse.

"For further information, write to Dr. M. O. Williams, Board of Missions and Church Extension, 150 Fifth Avenue, New York 11, N. Y."

In Biblical times, God, in His Infinite Wisdom, directed Moses to make the observance of wise sanitary laws by the Israelites a part of their religion. It may be that the church still has a part to play in the nation's health. A medical missionary can be as useful in some of the rural sections of the United States as he can in the foreign field. Now that large areas of China are closed to missions, some of the foreign missionaries might be diverted to the home mission fields.

Chickahominy Fever

NOT only has modern medicine conquered pestilential fevers, but it has greatly simplified their terminology. Older practitioners can remember when their elders discoursed learnedly on typho-malarial fever. Jail fever was mentioned as some sort of disease nice people did not have. But the previous generation had to contend with the confused nomenclature based entirely on clinical signs and symptoms. At the beginning of the Civil War the following terms were allowed in official Army reports: typhus, typhoid, common continued fevers, remittent fever, quotidian, tertian,

quartan and congestive intermittent fevers, bilious remittent fever, etc. In the Peninsular Campaign this list proved inadequate and a Special Board of Army Surgeons was appointed to review the situation. The Board examined the fever in several of the division hospitals of the Army of the Potomac and came to the conclusion that while a certain number of cases of ordinary typhoid existed in the Army, the large majority of the febrile cases "were bilious remittent fevers which, not having been controlled in their primary stage, had assumed that adynamic type which is present in enteric fever. This officially pronounced adynamic remittent [fever] prevailed extensively during the Peninsular Campaign of the following year and was familiarly known as *Chickahominy fever.*" The outstanding features according to Dr. J. M. DaCosta were extreme emaciation, diarrhoea that persisted for months, and great flatulence. There was no anasarca. He said the facies were characteristic but he did not describe it other than to say that the eye was clear. He reported the autopsy findings in two cases. Both had patchy inflammation in the ileum and the colon. One case had small ulcers in the sigmoid and the rectum. Both showed solitary glands containing black matter. One case had an enlarged fatty liver. Whether this were a severe form of typhoid fever he did not undertake to answer.

SOCIETIES

The Bedford County Medical Society,

At its January 21st meeting, elected the following officers for the ensuing year: President, Dr. Clifton R. Titus; vice-president, Dr. J. G. Jantz; and re-elected Dr. William V. Rucker secretary-treasurer. All are of Bedford.

Princess Anne County Medical Society.

Officers of this Society for the current year are: President, Dr. Ira L. Hancock of Creeds and secretary, Dr. Harry B. LaFavre of Virginia Beach.

Roanoke Academy of Medicine.

The guest speaker at the March 7 meeting of the Academy was Dr. Lawrence Reynolds, Detroit, Michigan, president of the American Roentgen Ray Society, whose subject was advances in the Medical Application of Atomic Energy. Preceding his talk, Dr. M. Pierce Rucker, president of the Medical Society of Virginia, spoke briefly. Dr. John T. T. Hundley, Lynchburg, recently appointed Virginia chairman for the National Education Campaign also attended and the Academy is working with him actively in public relations work.

Dr. Charles H. Peterson and Dr. T. J. Humphries are president and secretary, respectively, of the Academy.

The Augusta County Medical Society

Met at the Garden Center in Staunton on February 2nd, with the president, Dr. Charles L. Savage of Waynesboro, presiding, and Dr. C. F. Gaylord of Staunton at the secretary's desk. Dr. C. J. Frankel, associate professor of orthopedics at the University of Virginia, delivered an excellent paper on Low Backache, Its Diagnosis and Treatment. Dr. J. T. T. Hundley of Lynchburg spoke on The Crisis That Faces the Medical Profession at This Time.

The Washington County Medical Society

Was reorganized on January 13th, and the following physicians of Washington County attended the organizational meeting: Drs. Hines, Yokeley, Le Garde, Catherine Smith, Suter, Hillman, J. A. Wolfe, Fitzgerald, Johnston, Gabriel, and Hayter.

At the insistence of many physicians, letters were sent to all physicians as to their desire of reorganizing the Washington County Medical Society. Nineteen out of 21 replies were in the affirmative.

At the organizational meeting the constitution and by-laws as suggested by the American Medical Association were adopted. It was decided that no charter would be requested so that Washington County would still be included as a component of the Southwestern Virginia Medical Society.

An election of officers was held with the following results: Dr. R. S. LeGarde, Damascus, president; Dr. C. F. Johnston, Abingdon, vice-presi-

dent; Dr. James M. Suter, Bristol, secretary-treasurer; *Board of Censors*: Drs. P. S. Smith, G. Hunter Wolfe, and S. H. Yokeley; *Committee of Programs and Scientific Work*: Drs. C. F. Johnston, Mike Hines and James M. Suter; *Committee of Public Health and Legislation*: Drs. G. Hunter Wolfe, R. L. Hillman, and James M. Suter.

The second meeting of the Washington County Medical Society was held at the Martha Washington Inn on February 10. At this meeting it was decided that the Society would meet each month on the third Thursday at 6:30 p.m. Dr. C. J. Harkrader was guest speaker, his subject being "Chest Injuries".

JAMES M. SUTER,
Secretary-Treasurer

Lynchburg Academy of Medicine.

Dr. Andrew D. Hart of the University of Virginia Medical School was guest speaker before the Academy at its meeting on February 14, his subject being Psychosomatic Concepts of Disease. Dr. William T. Pugh is president of the Academy and Dr. John T. T. Hundley secretary.

NEWS

The Tri-State Medical Association

Of the Carolinas and Virginia held its semi-centennial meeting in Williamsburg on February 21st and 22nd, under the presidency of Dr. C. N. Wyatt, Greenville, S. C. Approximately 125 members attended the sessions. Dr. Russell Buxton, Newport News, succeeded to the presidency; Dr. R. B. Davis, Greensboro, N. C., is president-elect; Drs. J. E. Barrett, Williamsburg, W. T. Harris, Troy, N. C., and Furman Wallace, Spartanburg, S. C., vice-presidents; and Dr. J. M. Northington, Charlotte, N. C., re-elected secretary-treasurer. Members of the Council for the current year include Drs. Northington and Grady Dixon, Ayden, N. C., J. W. Devine, Jr., Lynchburg, W. R. Wallace, Chester, S. C., W. A. Johns, Richmond, R. E. Brooks, Burlington, N. C., R. L. Crawford, Lancaster, S. C., Rex Blankinship, Richmond, C. M. Gilmore, Greensboro, N. C., and F. E. Kredel, Charleston, S. C.

The Southwestern Virginia Medical Society

Will hold its semi-annual meeting at Hotel Roanoke, Roanoke, on May 26, under the presidency of Dr. R. M. Dehart of Radford. Dr. Andrew F. Giesen, also of Radford, is secretary. At the afternoon session, starting at 2:00 p.m., the speakers will be Dr. James M. Suter of Abingdon on The Need for Continued Treatment and Control of Venereal Disease in Southwestern Virginia; Dr. William H. Kaufman of Roanoke on "Geriatric Dermatoses; and Dr. Jay M. Arena of Durham, N.C., on Acute Poisoning in Children. This will be followed by a short business session and a social hour from 5:00 to 6:00 p.m. Following a banquet at 7:00 p.m., there will be addresses by Dr. Robert N. Creadick of Duke University on Psychomatic Gynecology, and by Dr. William N. Nicholson, also of Duke, on Some Neurologic and Vascular Complications of Diabetes Mellitus.

Miller Portrait Presented to Academy.

The family of Dr. Joseph L. Miller of Thomas, West Virginia, presented his portrait to the Richmond Academy of Medicine on March 12th. The ceremony was held in the Miller Library of the Academy, which houses a collection of rare medical books, portraits, prints, autographed letters, silhouettes and medical instruments, presented by Dr. Miller in 1932. The portrait, which was painted by David Silvette, was unveiled by Mrs. Henderson H. Miller of New York. It was presented by Dr. James H. Smith and accepted by Dr. Wyndham B. Blanton. Dr. Harry Warthen, president of the Academy, presided at the ceremony.

Dr. Miller graduated from the Medical College of Virginia in 1900 and received the honorary doctorate of literature from that institution in 1931. He has been made a life member of the Historical Society of Virginia and an honorary member of the Richmond Academy of Medicine.

News from School of Medicine, University of Virginia.

Under the auspices of the Postgraduate Program for House Officers, the following guest speakers have recently presented lectures to the faculty and student body:

February 21—Dr. Helen B. Taussig, Johns Hopkins. Subject: "Differential Diagnosis of Congenital Cardiac Malformations of the Cyanotic Type."

February 28—Dr. Homer W. Smith, New York University College of Medicine. Subject: "Clinical Implications of Disturbed Renal Function."

March 7—Dr. Russel L. Haden, formerly Chief of Medicine, Cleveland Clinic. Subject: "Leukemia."

March 14—Dr. Harry L. Alexander, Washington University, St. Louis. Subject: "The Broader Aspects of Allergy."

Dr. A. D. Hart, Associate Professor of Medicine, addressed members of the Lynchburg Academy of Medicine, Inc., on the subject, "Psychosomatic Concepts of Disease", at a meeting on February 15th.

At the meeting of the Virginia Council on Health and Medical Care in Richmond, January 29th, Dr. H. B. Mulholland, Professor of Medicine, was re-elected Chairman of the Council.

On February 18th, Dr. C. B. Oberndorf, Clinical Professor of Psychology, Columbia University, spoke to the faculty and student body on the subject, "Basis of Psychoanalytic Therapy".

Dr. E. P. Lehman, Professor of Surgery, delivered the first Major G. Seelig Lecture at the Washington University School of Medicine on February 18. Dr. Lehman's subject was "The Reaction of the Peritoneum".

At the Annual Meeting of the Georgia Society of Ophthalmology and Otolaryngology, held in Savannah, March 4th and 5th, Dr. Fletcher D. Woodward presented lectures on "Paralysis of the Larynx" and "Problems in Laryngology".

Dr. Chalmers L. Gemmill, Professor of Pharmacology, presented a paper entitled "Glycolysis in Pharmacology" at the Army Chemical Center on March 9.

Dr. H. B. Mulholland attended the Second Annual Rural Health Conference in Chapel Hill, N. C., on March 11th, and spoke to the group on the subject "The Problems of Rural Medicine".

Sterling-Winthrop Research Institute

Will start moving into its new $3,000,000 laboratory building in June of this year, but formal opening will be held later in the year.

The four-story, steel-frame brick building is located on a knoll on the east bank of the Hudson River, overlooking the plants at Rensselaer.

A division of Sterling Drug Inc., the Institute conducts research for all operating Sterling divisions and subsidiaries which have a total of 51 plants and 118 branches throughout the world. The new laboratory building has been described as "the scientific brain of the Sterling organization."

The American Congress of Physical Medicine

Will hold its twenty-seventh annual scientific and clinical session September 6-10 inclusive, at the Netherland Plaza Hotel, Cincinnati, Ohio. Scientific and clinical sessions will be given each day and all sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be offered in two groups. One set of ten lectures will consist of basic subjects and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapy technicians who are registered with the American Registry of Physical Therapy Technicians.

Full information may be obtained by writing the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

The American College of Allergists.

More than 1000 physicians interested in allergy from North America and abroad are expected in Chicago from April 14 to April 17. Everyone who attends is urged to bring his wife and any office personnel interested in the various phases of allergy. Both members and non-members are urged to attend and are required to register and receive a badge. There will be no charge for registration. There will be over 20 scientific exhibits and 40 technical exhibits of interest to allergists.

All those attending the annual meeting are requested to make their own hotel reservations directly with the Palmer House. A block of rooms has been reserved for those attending the meeting. Please direct all correspondence to the Reservation Manager, Palmer House, Chicago 90, Illinois and include your arrival and departure time, and the type and rate of room desired. Be sure to indicate

that you are attending the meeting of the American College of Allergists.

Personnel Notes, State Department of Health.

Effective March 1, Dr. W. D. Anderson assumed his duties as Health Officer of the Russell-Wise Health District, with headquarters at Norton.

Dr. E. D. Hardin, until recently Pittsylvania County health officer, has been appointed to the same position for Page, Warren and Shenandoah Counties, and has just entered upon his new duties with headquarters at Luray.

Dr. H. C. McCoy,

Gordonsville, was elected vice-president of the Business Men's Association of that place, at the annual meeting in March.

Virginia State Board of Medical Examiners.

The regular meeting of the Virginia State Board of Medical Examiners will be held at the Richmond Hotel, Richmond, on June 16th, 1949, and the examination on Part I and Part II will be held at the same Hotel June 17th and 18th.

All papers relative to the application for examination and for license by reciprocity must be filed with the Board not less than ten days before the date of meeting.

Address all correspondence on these subjects to Dr. K. D. Graves, 631 First Street S. W., Roanoke, Virginia.

Dr. and Mrs. C. V. Montgomery,

South Hill, have been spending the winter at Daytona Beach, Florida, having gone there the first of December.

Richmond Doctor Receives Grant from Markle Foundation.

Dr. G. Watson James, III, Richmond, has been appointed by the John and Mary R. Markle Foundation as one of the thirteen "Scholars in Medical Science" to receive a $25,000 grant, at the rate of $5,000 a year for five years, to the Medical College of Virginia, in which institution he is at present a research fellow in medicine. These grants are made in response to the public demand for more and better doctors in rural areas, public health and other fields. To meet this demand it is necessary to keep qualified young scientists on the staffs of medical schools by giving them financial support.

Dr. James graduated from the Medical College in December 1943 and was in military service from June 1946 to April 1948, during which time he was engaged in clinical investigation.

Sections of A. M. A. Directory Set in Type.

Most of the medical laws, hospital data and preliminary state matter for the new 18th edition of the American Medical Directory has now been set in type.

Frank Cargill, head of the A. M. A. Directory Department, reports that because of the vast number of changes of address, the new names to be added and the lack of trained clerical help, compilation of the big book has been progressing very slowly.

The Directory will contain biographical information on approximately 220,000 physicians, including more than 50,000 doctors whose names have entered A. M. A. files since publication of the last Directory in 1942. One of the big problems in compiling the new edition is obtaining accurate addresses for physicians whose internships or residencies have just expired.

So far, copy on physicians in 15 states has been sent to an outside printing firm. Mr. Cargill says that it is almost impossible to predict at this time when the yearbook would be ready for delivery to subscribers. This marks the first time that the Directory is being printed outside of the A. M. A. headquarters building since the book was established in 1906.

The Southeastern Surgical Congress

Will hold its seventeenth annual assembly in Biloxi, Mississippi, at The Buena Vista Hotel, May 23-26, 1949.

There will be forty-three papers presented by distinguished surgeons from the South and throughout the country. Further information may be obtained from Dr. B. T. Beasley, secretary-treasurer, 701 Hurst Building, Atlanta 3, Georgia.

Color Television at A. M. A. Convention.

Television in natural color for the teaching of surgery and medicine to medical students will have a pioneering demonstration at the A. M. A. meeting in Atlantic City, under arrangements concluded by Smith Kline & French Laboratories, Philadelphia pharmaceutical house, and the University of Pennsylvania.

To assure the suitability of the equipment for

widespread use in medical schools under general teaching conditions the Medical School of the University of Pennsylvania is collaborating with the Engineering Research Laboratories of the Columbia Broadcasting System in its design. Cooperating with CBS in the production of the equipment are Zenith Radio Corporation and Webster-Chicago Corporation.

Continuously for four days of the A. M. A. session, actual surgery and diagnostic and other medical procedures will be televised in natural color while being performed by the faculty of the Medical School of the University of Pennsylvania and by the staff of the Atlantic City Hospital. The color television picture will be picked up at the Atlantic City Hospital and beamed on a closed circuit directly to Convention Hall for the benefit of several thousand visiting physicians. The doctors will watch the transmissions on 20 color television receivers.

Doctors Urged to Mail Editorials.

Doctors throughout the country are requested to send to the A. M. A. all newspaper editorials pertaining to compulsory sickness insurance. Mail them any clippings pertaining to socialized medicine, whether pro or con, or dealing in any way with the A. M. A. or its 12-point health program.

The American Board of Preventive Medicine and Public Health, Incorporated,

Was approved by the Advisory Board for Medical Specialties and by the Council on Medical Education and Hospitals of the American Medical Association at their meeting on February 6. The American Board of Preventive Medicine and Public Health, Incorporated, therefore is prepared to accept applications for examination for certification in this specialty.

The requirements for certification include general qualifications, such as moral and ethical standing in the profession, adequate training in medicine and interneship in an approved hospital, and licensure to practice medicine in the United States. Eligibility for examination also requires that the applicant have special training and experience in preventive medicine and public health of at least six years following interneship. This must include special academic training, or its equivalent, and field training or residency meeting the standards set up by the Board.

Applications may also be received for the Founders Group who may be excused from examination. The By-laws authorize a Founders Group made up of practitioners of preventive medicine and public health who have attained unquestioned eminence in the field. The Founders Group presumably will include persons having attained eminence as indicated by academic appointments at the level of professor or associate professor of preventive medicine and public health, or who have held positions of eminence and responsibility for a period of not less than ten years in this field.

Dr. Ernest L. Stebbins of the Johns Hopkins University School of Hygiene and Public Health, Baltimore, is secretary-treasurer of the Board.

The Jefferson Medical College

Announces the institution of courses in the Basic Medical Sciences leading to the degrees of Master of Science and Doctor of Philosophy.

The courses offered are in the major fields of Anatomy, Physiology, Biochemistry, Bacteriology and Immunology, Pharmacology and Toxicology, and Pathology. The baccalaureate degree is a necessary requisite for admission to all courses except Pathology, which requires the degree of Doctor of Medicine. These courses will be open beginning September, 1949.

Dr. C. Marshall Lee, Jr.,

Formerly of Charlottesville and a member of the class of '35, University of Virginia, Department of Medicine, has located in Cincinnati, Ohio, where he has accepted a position as assistant professor of surgery in the College of Medicine of the University there. For the past two years he has been on the staff of Norburn Hospital, Asheville, N. C.

Dr. Vincent E. Lascara,

Class of '34, Medical College of Virginia, has located for practice in Newport News, with offices at 2407 Chestnut Avenue. Dr. Lascara was for a time on the staff of Central State Hospital, Petersburg, and later with the State Hospital in Raleigh, North Carolina.

Dr. Oscar R. Yates,

Suffolk, was recently presented the annual Silver Beaver Award by the Old Dominion Area Council of Boy Scouts. He has served as chairman of the Council health and safety committee and been interested in the scouting work for twenty years.

The American Association of Railway Surgeons

Will hold its annual meeting at the Drake Hotel, Chicago, June 30, July 1 and 2. An interesting and instructive scientific program has been arranged. The morning sessions will include papers on various medical and surgical subjects, and the two afternoon sessions will be devoted to symposia on "Lesions of the Bones and Joints" and "Intra-thoracic Disorders."

The annual dinner will be held at the Drake Hotel on Friday evening, July 1. Room reservations may be made at the Drake Hotel or at the nearby Knickerbocker Hotel. There will be a technical exhibit in conjunction with the scientific meetings.

Further information may be obtained from the secretary, Dr. Chester C. Guy, 5800 Stony Island Avenue, Chicago 37.

Physician-Artists, Attention:

If you plan to exhibit at the Atlantic City Exhibition (American Medical Association, June 6-10, 1949)—Now is the time to write for entry blanks, rules, shipping labels, etc.

Haste is necessary because your entries must reach Atlantic City between April 15 and May 9.

For details, please write airmail to Francis H. Redewill, M.D., Secretary, American Physicians Art Association, Flood Building, San Francisco, California.

The Medical Library Association

Has chosen Mrs. Eileen R. Cunningham, librarian of Vanderbilt University School of Medicine, as first recipient of the Association's Marcia C. Noyes Award. This will be presented to her at the Association's annual meeting in Galveston, Texas, April 11, in recognition of outstanding achievements in medical librarianship.

The American College of Chest Physicians

Will hold its annual meeting at the Ambassador Hotel, Atlantic City, June 2-5. An interesting scientific program has been arranged, and speakers from several other countries are scheduled to appear.

The Board of Examiners of the College announces that the next oral and written examinations for fellowship will be held in Atlantic City, June 2. Candidates for fellowship in the College, who would like to take the examinations, should contact the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

The South Atlantic Association of Obstetricians and Gynecologists

Announces the establishment of "The Foundation Prize". Authors of papers on obstetrical or gynecological subjects desiring to compete for the prize may obtain information from Dr. E. D. Colvin, Secretary-Treasurer, 1259 Clifton Road, N. E., Atlanta, Ga.

The American Society of Medical Technologists

Will hold its 17th annual convention in Roanoke on June 19th, under the chairmanship of Miss Ida L. Reilly of that city. Miss Rachel M. Lehman, Indianapolis, is president of the Society and Miss Reilly is president-elect.

The Virginia Society of Medical Technologists is to have its annual convention in Charlottesville, May 7th and 8th. Miss Harriet Howe, Richmond, is president, and Miss Eleanor Rawls, Norfolk, vice-president.

New Books.

Among recently acquired books received at the Library of the Medical College of Virginia are the following, which are available to our readers under usual library rules:

Albright and Reifenstein—Parathyroid glands.
National Cottonseed Products Association—Allergy to cottonseed and other oils.
Bernheim—The story of Johns Hopkins.
Bohler—Medullary nailing of Kuntscher.
Bosco—La localizacion elective del infarto del Micardio en el Ventriculo Ixquierdo. Sus syndromes.
Bourdelle—Anatomie regionale des animaux comestiques.
Chilean Nitrate Educational Bureau—Bibliography of the literature on the minor elements and their relation to plant and animal nutrition.
Dunham—Premature infants; a manual for physicians.
Gold, ed.—Cornell conference on therapy. Vol. 3.
Gross—Modern foot therapy.
Hess—Die funktionelle organisation des vegetativen nervensystem.
Kagan—Fielding N. Garrison, a biography.
Knisely—Selective phagocytosis I.
Law—Therapy through interview.
Rice—The structure of matter.
Sulzburger and Baer—Office immunology.
Thorner—Psychiatry in general practice.
Traquair—Clinical ophthalmology for the general practioner.

Recent progress in hormone research. Vol. 3.
Vaughan—Practice of allergy. 2d ed.
Yearbook of urology. 1948.

Doctor,

In looking over the MONTHLY, don't forget the advertising pages, and remember all ads are carefully screened—the items, services, and messages presented are committee-accepted. Our standards are of the highest. The advertisers like our journal—that's why they selected it for use in their promotional program. They seek your patronage and your response encourages continued use of our publication.

In turn, the advertisers' patronage helps us to produce a journal that is second to none in our state. When you send inquiries, tell them that you read their advertisement in the VIRGINIA MEDICAL MONTHLY.

Doctor Wanted.

Doctor wanted to take over well-equipped, eight-room doctor's office, with well established practice in eastern North Carolina town of 3,000 population. Modern hospital 18 miles distant on Route 301 South. If interested, write Harrison Drug Company, Enfield, North Carolina. (*Adv.*)

Wanted—

Physician to share office and expenses. Office available 9:00 a.m. to 12:30 p.m. Central West End Office Building in Richmond. Answer "D. L.", care VIRGINIA MEDICAL MONTHLY, 1200 East Clay Street, Richmond. (*Adv.*)

For Rent—

Desirable office, centrally located in Richmond. Reasonable. If interested, dial 5-3267, or address "Office", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

OBITUARIES

Dr. Isaac Carrington Harrison,

Of Danville, President of the Medical Society of Virginia in 1931-1932, died on March the 12th of pneumonia, though he had been in bad health for about four years and had recently fractured his hip. He was born in Amelia County in December 1870 and studied medicine at the University of Virginia from which he received his diploma in 1895. He practiced in Clarksville for about twelve years, before locating in Danville in 1910. Dr. Harrison took an active part in the civic as well as professional life of Danville. He was one of the organizers of Hilltop Sanatorium and Memorial Hospital, was for ten years a member of the city School Board, and was identified with other local interests. He was for twenty-four years a member of the State Board of Medical Examiners. He is survived by his wife, two daughters and three sons, two of whom are physicians.

Dr. Charles O. Dearmont,

A former member of the Council, of the Medical Society of Virginia, died at his home at White Post on February 23. He was seventy years of age and had been a lifelong resident of Clarke County. He received his medical degree from the former University College of Medicine, Richmond, in 1903, returning to his home to practice. He had been a member of the Medical Society of Virginia for forty-five years, was a member of local medical societies and of the American Medical Association. He served for several years as chairman of the County School Board, was a member of Clarke County Lions Club, and a vestryman in the local Episcopal church, being senior warden at the time of his death. His wife, two brothers and a sister survive him.

RESOLUTION

Be it, and it is hereby Resolved by the Medical Staff, Winchester Memorial Hospital, Winchester, Virginia, meeting in regular monthly session this second day of March, 1949, that:

(1) The sudden death of Dr. Charles O. Dearmont on Wednesday, February 23, 1949, is regarded by the members of this Staff to represent a most serious loss not only to the Hospital, the development of which he so conscientiously fostered, but also to our own profession, which he so valiantly upheld, and a loss to the entire community wherein he lived, a loss to his church, in which he took such active part, and one to his many warm friends, admirers, and professional associates and acquaintances;

(2) This Staff held Dr. Charles O. Dearmont in the highest esteem, and recognized his virtues of gentle kindness, sobriety, tolerance, fair dealing, sterling character, and gentlemanly conduct;

(3) The deepest sympathy of this Staff, individually and collectively, is hereby extended to the widow of our deceased friend and associate, who with us mourns his loss;

(4) This Resolution be spread upon the Minutes of this Meeting, and thereby be made a permanent record in memorium to the said Dr. Charles O. Dearmont, and copies of this Resolution be sent to the widow of Dr. Dearmont.

E. WILLIS LACY, JR.,
Secretary, Medical Staff,
Winchester Memorial Hospital.

Similar resolutions were also adopted at this meeting on the death of Dr. Philip Williams Boyd, whose death was announced in the March issue of the MONTHLY.

Dr. Lucius Daniel Morgan,

Widely known physician in Campbell and Bedford Counties, died at his home at Gladys on March 10 at the age of seventy-eight years. He was graduated in medicine from the former University College of Medicine, Richmond, in 1903 and, with the exception of a few years in Alleghany County, had practiced in the vicinity of Gladys for over forty years. He was a Mason, a member of the Medical Society of Virginia and the American Medical Association, and had been superintendent of the Kedron Baptist Sunday School at Gladys for more than forty years, a position he held at the time of his death. He is survived by his wife, one son, Dr. T. Addison Morgan of Franklin, three daughters, and a large family connection.

Memorial to Dr. J. A. Rucker.

The Bedford County Medical Society, of which Dr. Joseph A. Rucker was a popular and honored member, wishes to place on record this memorial as an expression of esteem and a tribute of respect to his memory:

WHEREAS, Dr. Rucker, who has been a beloved co-laborer in the science of healing in Bedford County, and whereas our association, both professional and social, has been close and harmonious, we, the members of the Bedford County Medical Society, recognize the high order of his services and the fineness of his character, and offer the following resolutions:

BE IT HEREWITH RESOLVED, that in his death on June 29, 1948, Bedford County has suffered a serious loss. A general practitioner of the highest order, whose accomplishments were many and great. One truly a family physician, whose skill and ability were unquestioned and who, during his many years of active service to his patients, gave unstintingly of his time to rich and poor alike. No distance too great, no night too dark or stormy to stay his effort.

The qualities of heart, firmness of purpose, beauty of soul and the other attributes of a Christian gentleman endeared him to those who knew him, the better knowledge bringing the deeper love and appreciation.

That a copy of these resolutions be spread on the minutes of this meeting.

That a copy be sent to his family and to the VIRGINIA MEDICAL MONTHLY.

C. R. TITUS, *President.*

An Appreciation of Dr. Rufus S. Kight.

Dr. Rufus Speed Kight, an active member of this society for more than forty-five years and a former president, died at DePaul Hospital, this city, on February 12, 1949, in the seventy-second year of his life.

Dr. Kight's many professional accomplishments and his personal characteristics won for him a high place of prominence in the affairs of this society.

His medical career was characterized by the attainment of special skill in the field of obstetrics and gynecology. This was acquired more through his own study and effort than through teaching and exemplifies the ideal of rendering mankind a more efficient service through opportunity.

The personal traits of Dr. Kight endeared him to patients and colleagues alike. Although a man of retiring demeanor, he sought and retained the friendship of his associates in a most devoted way. Through all the years of his life, he exhibited the special virtues of loyalty to his friends, loyalty to the high ideals of his profession and loyalty to his duty.

In the passing of Dr. Kight, this society has lost a member of steadying influence and wise counsel and its members have lost a beloved friend.

It is requested that this humble tribute to our friend and fellow member be recorded in the minutes of this meeting of the Norfolk County Medical Society and that copies be sent to his family and the VIRGINIA MEDICAL MONTHLY for publication.

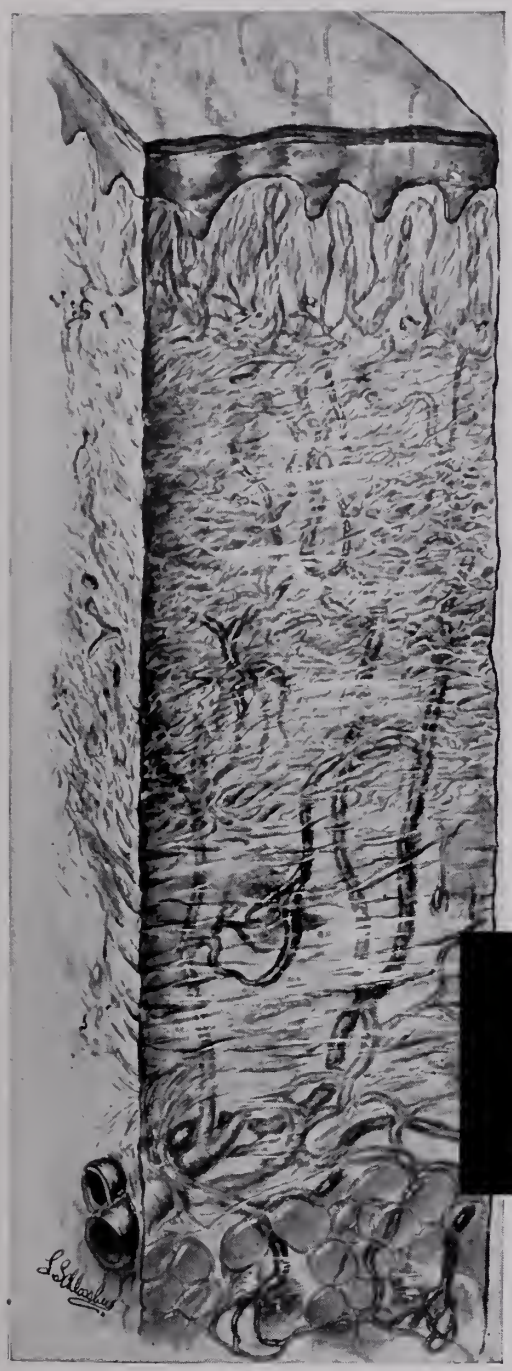
M. N. KING
C. L. HARRELL
M. S. FITCHETT, *Chairman*

Dr. J. David Buchanan,

Retired physician of Marion, died February 27, at the age of eighty-three. He graduated in medicine from Bellevue Hospital Medical College in 1892, and had been active in the professional and political life of Marion. He was formerly on the staff of Southwestern State Hospital, and for twenty years chairman of Smyth County Democratic Committee.

Dr. Erwin Carter Brandon,

Former medical examiner for the Norfolk and Western Railway, died on March 4 at his home in Bedford, in which place he located upon retirement from active duty. He formerly lived in Suffolk. He was a graduate of Vanderbilt University in 1909 and served in the Army Medical Corps during World War I. His wife and three children survive him.



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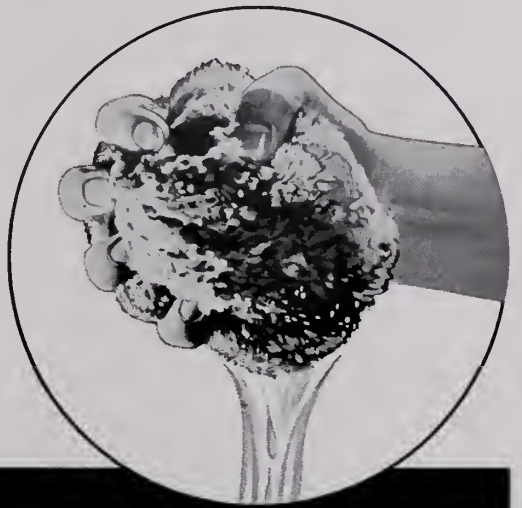

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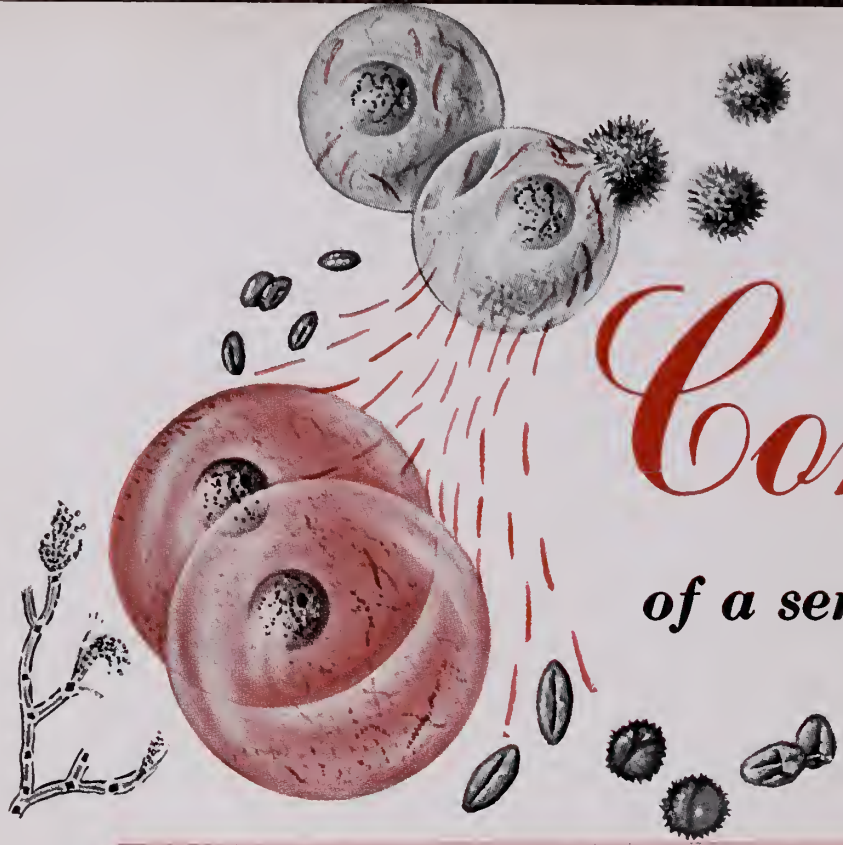
CONTENTS

Guest Editorial. E. C. Harper, M.D. ---------- 213
Medical Care. H. B. Mulholland, M.D., Charlottesville, Va. 214
The American Medical Association's Responsibility in the Problem of Medical Care. Walter B. Martin, M.D., Norfolk, Va. ---------- 214
Rural Health. Franklin Smith Crockett, M.D., Lafayette, Ind. ---------- 217
Ten Commandments of Prepayment. Thomas A. Hendricks, Chicago, Ill. ---------- 219
Recent Trend in Treatment of Obesity. H. E. Ferguson, M.D., Richmond, Va. ---------- 222
Experiences with Low Sodium Diets. Ernest G. Scott, M.D., Lynchburg, Va. ---------- 225
Calcinosis—Report of a Case. William L. Wingfield, M.D., and Elam C. Toone, Jr., M.D., Richmond, Va. -------- 230
Rhabdomyosarcoma: It's Dissemination and Response to Radiation. Jeffrey P. Moore, M.D., Richmond, Va. -- 234
Radium Therapy for Lymphoid Hyperplasia of the Nasopharynx. George N. Thrift, M.D., Richmond, Va. ---- 239
Transurethral Resection and the Neurogenic Bladder. Maxwell Malament, M.D., and R. Carl Bunts, M.D., Richmond, Va. ---------- 243
Diagnosis in Dermatology. William H. Kaufman, M.D., Roanoke, Va. ---------- 247
Caesarean Section. Leroy S. Pearce, M.D., Lynchburg, Va. 249

Continued on page 6.

JENNER ANNIVERSARY

May, 1949



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GUEST EDITORIAL

Streptomycin in the Treatment of Tuberculosis

MANY of the drugs proposed in the past for the treatment of tuberculosis have been useless because of the high toxicity to the body tissues. Many of these drugs could be used to kill micro-organisms if they did not also destroy the host. Streptomycin is the first of a multitude of drugs that has definite therapeutic ability without great toxicity. The number of patients now treated with streptomycin is large enough to draw definite conclusions and it should be stated in the beginning that not all cases are suitable for therapy with streptomycin. In practically no instance should the time honored therapeutic measures of rest, fresh air, high caloric diet and surgery be abandoned in favor of streptomycin. On the other hand, in practically all tuberculosis streptomycin may be used as a supplementary treatment to the above.

Generally speaking, the acute exudative pulmonary lesions and the complications of tuberculosis, such as tracheobronchial, laryngeal, cutaneous, sinuses, fistulae, miliary, meningeal, bone and joint, and lesions of the skin and eye respond well to treatment.

In the field of surgery, streptomycin has made possible definitive surgery on a great many patients previously thought to be inoperable and has permitted the surgeon to remove tuberculous lesions by excisions of a portion or a whole lung with impunity.

The drug is not without harmful effects. The original dose of 1.8 grams of streptomycin daily intramuscularly every four hours, day and night, for 120 days was clinically satisfactory; however, evidence of toxicity, such as dermatitis, nausea and vomiting, vertigo, jaundice, and vestibular damage were noted in something like 10% of all cases. The dose was reduced to one gram a day for 120 days and seemed to be as effective as the former dosage. The drug has since been further reduced to one-half gram for 42 and 60 days. Clinical improvement is usually noted within the first 2 to 3 weeks of treatment. Changes on the x-ray film may be seen later—as much as 60 to 90 days. Constitutional symptoms are relieved and a sense of well-being is noted in most patients early in the treatment. The most spectacular results are seen in laryngeal involvement. Usually by the second or third dose, patients' laryngeal symptoms, including painful and difficult swallowing, have been relieved.

One of the serious drawbacks to the use of streptomycin has been the production of drug resistance. This happens with sufficient frequency and administration of streptomycin should be avoided when other effective treatments are available.

The development of dihydrostreptomycin has given us a drug with marked reduction in the neurotoxic action without in any way sacrificing the antimicrobial efficacy. This drug may be used in larger doses and over longer periods of time without producing resistant organisms or causing toxic symptoms. Dihydrostreptomycin is usually well tolerated by patients who are hypersensitive to streptomycin. Vestibular dysfunction is also more infrequent and less marked than is seen with streptomycin. It may also be administered to some patients who are markedly allergic to streptomycin and no cases have been observed in which eosinophilia developed. The only unfavorable action of this preparation is slightly more irritation of the tissues at the sight of the injection. Intrathecal injection of dihydrostreptomycin is not recommended for the treatment of meningitis unless a less irritant form of the drug can be used.

E. C. HARPER, M.D.

EDITOR'S NOTE. Dr. Harper is connected with the Department of Medicine and Surgery of the Veterans Administration, Richmond, Virginia.

MEDICAL CARE

Panel Discussion*

MODERATOR H. B. MULHOLLAND, M.D.,
Charlottesville, Virginia.

In this troubled world today we physicians, too, have many problems. For this reason we decided that we would have presented to you some of the problems that confront us. The most important ones are those which are concerned with medical care, its extension, and all of its implications. We have tried to select for you individuals who are experts in particular phases of this problem of medical care and to present to you some of the things that we think you ought to know, and at the end of the three discussions we will try to have a short period for questions and answers.

The first speaker on this panel is one who needs no introduction to Virginia physicians. He is one who for many years has given unstintedly of his time and effort to help solve some of the problems of medical care. He is a past president of the Medical Society of Virginia, and he now holds one of the highest positions in American medicine today, so we have asked Dr. Walter B. Martin, of Norfolk, Virginia, to open this discussion by talking to you about the American Medical Association's responsibility in the problem of medical care.

The second speaker, Dr. Franklin Smith Crockett of Lafayette, Indiana, has been concerned particularly with the problems of rural medical care. He was one of those instrumental in the formation of the Rural Health Committee of the American Medical Association, and he has won the confidence of the farm groups. He also has done excellent work both in going into their problems and in trying to build up a medical committee to solve some of them.

The last speaker also comes from Indiana. Mr. Tom Hendricks has been secretary of the Indiana State Medical Association and also a state senator in Indiana. Now he is the very efficient secretary of the Council on Medical Service of the American Medical Association.

The American Medical Association's Responsibility in the Problem of Medical Care

WALTER B. MARTIN, M.D.,
Norfolk, Virginia.

The problem of making a good quality of medical care available to all the people of this country is the most pressing one now facing our profession. As the principal custodians of medical knowledge, it has long been our responsibility. Our interest is two-fold. Not only is it our duty to exert our best efforts to this end for the benefit of the public, but the very integrity of our profession and the quality of medicine, present and future, depend upon a proper solution of this problem. A system based on political considerations or promoted by the ignorant or the venial can only result in harm to the public and disaster to medicine.

The responsibility for leadership rests primarily with the medical profession, acting through its organized bodies, local, state and national. I have placed local organizations first, since I am persuaded that although the national organization has grave responsibilities, the problem can only be solved by aroused and informed local organizations.

There are certain limitations on the powers of the national organization. The American Medical Association is a federation of autonomous state associations. Its governing and policy-making body is its House of Delegates, made up of representatives from the several states, chosen on a proportionate basis. By its constitution, the powers of its Board of Trustees and its general officers are limited to those delegated to them by the House of Delegates. In Article II of its constitution, the following statement is made: "The objects of the Association are to promote the science and art of medicine, and the betterment of the public health." In this last phrase resides the authority and compulsion for action on the part of the American

*Presented at the annual meeting of the Medical Society of Virginia held in Richmond, October 18, 1948.

Medical Association in the field of medical care. The American Medical Association, considering the problem of the nation's health, has outlined ten points considered to be of especial importance. Time will not permit a detailed enumeration and evaluation of these ten essential points. *The Journal of the American Medical Association,* January 24, 1948, reviewed them in some detail and outlined the progress that has been made in carrying out this program. This program reveals the basic philosophy that guides the American Medical Association in its approach to the problem of medical care. It is true, however, that this statement of policy is of little value unless put into action in a practical way.

In 1943, the Council on Medical Service of the American Medical Association was brought into being by action of the House of Delegates. Since then, this Council has acted vigorously in the field of medical care. It has concerned itself particularly with the problem of medical care in the following specific fields:

1. The organization of the Washington Office in charge of Dr. Joseph Lawrence. This office was projected as a "listening post" and as a bureau of information. It has functioned as a source of information for the benefit of the profession. Through it timely advice has been furnished us as to proposed legislation affecting the medical welfare of the American people. It has also provided accurate factual data to members of Congress bearing on medical matters.

2. Extension of medical facilities in the form of hospitals, health centers, and diagnostic centers.

3. Methods of financing medical and hospital care, particularly in reference to the development of prepayment plan for hospital and medical service.

4. The problem of proper medical and hospital care for the veterans with service-connected disability, with particular reference to the development of means of caring for the veteran in his own community.

5. The problem of medical care for organized industrial groups.

6. The care of the indigent.

7. Formation of local health councils.

The Committee on Rural Health, acting directly under the Board of Trustees of the American Medical Association, has made extensive studies in the field of rural health. It has acted in cooperation with various farm groups to work out detailed plans for improving medical care for rural dwellers.

It is evident that these several divisions of medical care are closely interrelated and that they cannot be considered separately. The extension of physical facilities in the form of hospitals and health and diagnostic centers is of primary importance. Such an extension of facilities, however, cannot move forward more rapidly than the training of technical personnel to man them. It is probable that the extension of facilities in the smaller areas may, to a large extent, solve the pressing problem of rural medical care. Many physicians will avail themselves of the advantages of small town and rural practice if adequate facilities are available.

The American Medical Association has supported the principle of the Hill Burton Act. It has urged the extension of a program of hospital and health-center construction to meet demonstrated needs. It has insisted that such facilities should be under local control and that they should fit into a well ordered plan for meeting the real medical needs of the people.

Next to the provision of adequate facilities in importance is the development of proper methods of financing medical and hospital care. Rapid progress has been made in this field through extension of Blue Cross and Blue Shield. At the present time, over thirty million people are covered by Blue Cross, and approximately ten million by Blue Shield. In addition to this it is estimated that forty million people in the United States carry some form of medical or hospital coverage in various commercial insurance organizations.

The Council on Medical Service fostered the Association of Medical Care plans with the purpose of providing an agency that could act as a trade organization in the extension of medical service plans. The A.M.C.P. was expected to coordinate the activities of the various plans, to act as a clearing house of information, to collect actuarial data, to aid in the extension of existing plans and in the formation of new plans. The Council on Medical Service and the House of Delegates of the A.M.A. have not yet approved the creation of a national insurance company as now proposed by the Associated Blue Cross and Blue Shield.

There are, at the present time, approximately eighteen million veterans in the United States. The American Medical Association has urged the further

extension of plans for the home-town care of the veteran entitled to governmental aid. It opposes an extensive hospital-building program, under the Veterans' Bureau, and urges the development of a coordinated hospital system that would serve all the people of the country. It feels that with the development of proper facilities it would be possible to take care of most of the veteran's needs in his home town, or in a civilian hospital not greatly removed. The fact that only 15% of the beds in veteran facilities are occupied by veterans with service-connected disabilities indicates that a house-cleaning in Washington is decidedly more needed than further veteran-hospital construction.

The problem of medical care for organized industrial groups has been brought to the forefront, with particular reference to the funds made available to the United Mine Workers by the twenty cents tax on each ton of coal produced. The success of the United Mine Workers in obtaining such a levy has stimulated efforts on the part of other large industrial groups to obtain similar funds, by a production tax on the commodity produced by their particular industry. Such special funds may be of great value if properly administered or applied. It might be pointed out, however, that these funds accruing from a commodity tax levied not by government but by "big labor" are susceptible of abuse. There is actually no moral justification for taxing the consumers of a special article of commerce for the exclusive benefit of the producers of that particular commodity. The American Medical Association has insisted that if adequate medical service is to be developed throughout the country as a whole, the facilities designed for veterans, the industrial worker, and other special groups should be coordinated on a community basis. This service should be designed to meet the needs of all of the people and not those of especially favored groups.

What are the responsibilities of the American Medical Association in these matters? By reason of its national organization, it is capable of making extended investigation, accumulating data, developing plans and formulating policies. Implementation of these policies and their execution is the responsibility of the individual states and the local association. The American Medical Association, through its Committee on Rural Health, its Council on Medical Service, its Council on Industrial Medicine, and its Bureau of Medical Economic Research, has carried out extensive investigations, and has accumulated a large amount of valuable information. Policies have been laid down in reference to methods of procedure. These policies center around the development of community responsibility for its health service. It is obvious that many communities are capable of developing an adequate health service, and of coordinating it with their neighboring communities. It is equally obvious that other communities, on account of economic conditions, may require help from the state, and certain states may require help from the federal government. It is highly important, however, that community responsibility and community control be maintained. It is equally important that the health services of various communities throughout a state be coordinated into an overall plan, so that a network of general hospitals, secondary hospitals and health centers be so distributed as to meet the needs of all of the people, and at the same time, operate effectively and economically. The philosophy behind this conception of health planning is the same as that of those men who first set up the political framework of this country, and is compatible with a democratic conception of the functions of government.

It is the purpose and responsibility of the American Medical Association, through its various councils and committees, to study the overall picture, to accumulate information, and to make overall plans. It is its duty to funnel this information down to the state associations, and to the individual communities. The responsibility, however, for the actual execution and implementation of such programs is the communities'. The medical profession possesses the technical knowledge, by reason of training and experience, to advise in these matters. It is capable of determining the quality of medicine and the technical factors concerned in the production of good medicine. The medical profession, however, has no vested interest in medicine. In order to develop and carry out an adequate health program, the help of all groups interested in the welfare of their community is needed. For this reason, the American Medical Association has urged the formation of local health councils in every community in the United States. This proposal was endorsed by the House of Delegates of the Medical Society of Virginia at its last annual meeting. The purpose of these councils has been set forth in bro-

chures issued by the American Medical Association. Briefly, their basic purpose is to bring together all groups in the community interested in providing good medical care for all the people in that community. If community interest can be aroused throughout the entire country, the problems concerned with the development of adequate facilities, of manning these facilities with trained personnel, of providing for the medical care of the veteran in his own home town, of extending prepayment medical-care and hospital-service plans, and of caring for the special needs of the industrial and rural groups, may be solved. It is the responsibility of the American Medical Association to aid the states and, through the states, the local communities to develop adequate medical plans. It is the duty of the state societies and the local societies to implement these plans.

Rural Health

FRANKLIN SMITH CROCKETT, M.D.,
Lafayette, Indiana.

The medical profession has been fully aware of the health conditions and the changing character of medical care developing in our farming communities. There has been an uneven distribution of doctors between town and country and also between country communities.

The pattern of doctor distribution of 40 years ago no longer applies today. Autos, all-weather roads, together with changed medical techniques, combine to set the pattern of today. Even the term "adequate medical care" is not an absolute quantity. It means different things, at different times, and in different places. It is not the same now as last year nor is it the same in different parts of the country today.

The cultural and economic resources of a locality profoundly influence the solution of the health and medical care program.

1. The economically self-sufficient farming areas with good homes, roads, schools and churches, are nearly all supplied with doctors and the problem there is one of health education.

2. The marginal type of farm country where meager economical reward creates communities with inferior housing, poor schools and churches, and with cultural conditions and ambitions in keeping with their poverty, have experienced great difficulty in getting doctors or holding them should they come. The problem here is to improve health and economic conditions since each acts to support and stimulate the other.

The war years have brought great prosperity to most farmers, and the recognition of Congress of the principle of parity in the support of farm prices should assure a prolonged period of economic stability for the worker of the soil and the town and villages which supply his needs. This improved financial status has not always meant better health and living conditions. This can be had by health education attuned to the special health needs of each community through local organization. Health improvement can come nearer to a satisfactory solution in any community, rich or poor, when it is obtained by voluntary action voluntarily agreed to by participants who so value the benefits obtainable they are willing and anxious to pay the price in labor and money required to get it. They do have some earning capacity now, and so much depends on what they buy with it.

Medical science of today has developed many therapeutic agents and techniques of recognized value. We doctors want them readily accessible to the rural sick. We doctors cannot bring them unaided but we do know that any community can have that degree of healthful living they are willing to work for in cooperation with their doctors.

During our brief three years our Committee has evolved a plan and several key principles.

1. We have not tried to do the job ourselves.

2. We have not tried to dominate or impose our thinking on the other participants. Quite the reverse, we have consistently sought to limit our activity to keeping within the frame-work of our knowledge and experience. In our annual rural health conferences our advisory members help select the type of meeting as well as the subjects to be discussed and many of those appearing on the program. We strive to make it their meeting. We make it understood that anyone attending is privileged to express his opinion openly and freely, no matter

how much it may be at variance with others in attendance. It is not debatable but those wishing to voice other viewpoints may be granted the privilege of the floor.

We have had some pretty hot opinions voiced on occasion but this freedom has earned our meetings an enviable reputation for fairness and equality.

Our advisory members come from the major farm groups. The American Farm Bureau, the Grange, the Farmers Union, the National Cooperative Milk Producers Federation, and the Extension Departments of our agricultural colleges, are each represented by two members who are interested in studying and improving the welfare and health of our rural population. This should keep us in intimate contact with the needs and desires of those we hope to benefit. The membership of the Committee was selected with this idea of keeping in close touch with conditions in all parts of the country. The 48 States have been divided into 8 groups having comparable rural health problems. A member resides in each area. His responsibility is to promote and coordinate professional and lay interest and activity within his group of States. His knowledge of his regional problems contributes much in the deliberations of the Committee.

State medical society committees on rural health have been organized in about 45 of our 48 States and in Hawaii. In a number of States, conferences have been held with rural leaders, state health authorities, agricultural school extension departments and many others interested in the health problem. Here in Viriginia you have, under the leadership of our moderator, Doctor Mulholland, and many others, set the pattern for state health councils.

The logical next step is local organization. It is in the county where actual benefit will accrue to the individual and the community.

As a people we are disposed to take good health for granted. It is only after we have experienced the loss of it that we appreciate its value. If we can stimulate, through health education, an intelligent self-interest in keeping well, equal to the desire to get well, we will have accomplished a worthwhile task. Last year in 18 States progress was reported in organizing local health councils.

We doctors and farmers are proceeding in the belief that the best way to help people is by helping them to help themselves.

The local health councils channel local effort for community improvement. This local effort educates people, not only in the advantageous objectives to be gained, but also in the technique of procuring it for themselves. Local pride is stimulated by achievement that strengthens the whole democratic process. Having organized a community health council it must not be left to operate in a vacuum. There must be a program. An audit of health assets and liabilities should point the way to next things to do; those things which should be striven for now and those to come later. This all adds up to health education directed toward specific desirable goals reached through voluntary cooperation of all the people—an experience infinitely more valuable to any community than being fed by "manna from heaven".

The areas economically unable to provide an adequate measure of their needs should have assistance from the State. The local effort, however, should precede outside help and should be commensurate with its resources. Strength of character is developed through self-help and we should keep this fact in mind when plans for assistance are discussed.

While there is widespread interest in health matters, there is no evident "ground swell" demand for action by any large segment of the rural population. Such agitation as witnessed to date has been created by those leaders who understand and value the benefits medicine can bestow, and altruistically want those benefits available to everyone. Perhaps everyone would be just as eager if equally informed.

Some plan of adequate health education for the adult must precede any great triumph in the field of rural health. Our best approach is with the women, the wives and mothers, who have always been interested in any means for keeping their loved ones in good health. They can be depended upon to bring their men folk into line. Our rural women should be given full opportunity for leadership whenever a community council is formed.

Our Rural Health Committee has under consideration a more agressive program than has been possible in the past. We expect to obtain a top level man as secretary to correlate the activity of professional, collegiate, and lay organizations, to interest the press and radio in helping us to create more general interest in rural health.

We have an assistant secretary at headquarters where we should have complete records of every-

thing being done in the rural health field by rural, collegiate, governmental, and professional leaders. Such a clearing house set-up, together with an aggressive executive, should do much to increase the velocity of this movement. We have received every encouragement from rural leaders.

In summary, the program of the American Medical Association Committee on Rural Health for promotion of rural medical care is:

a. To cultivate a liaison with the important farm organizations as a most effective means of cooperation with farm people.

b. Through this association with farm people, to promote and initiate means of health education and a fuller appreciation of healthful living.

c. In the furtherance of this program, to strengthen the democratic process by helping people to help themselves.

d. What we have accomplished in cooperation with the major farm groups has been developed in an atmosphere of mutual friendship and trust. This whole plan is based upon the concept that we will go farther and accomplish more when we work with an informed citizenry voluntarily engaged in promoting better health and community values.

Ten Commandments of Prepayment

THOMAS A. HENDRICKS
Chicago, Illinois.

Dr. Mulholland, Dr. Martin, Dr. Crockett, ladies and gentlemen, members of the Medical Society of Virginia, it is certainly very nice to be here and to get such a glowing recommendation and introduction; but I am afraid you all know what the late Will Rogers said when he addressed the Senate of Indiana a few years before his death. On that occasion he said: "It gives me great pleasure to address the Senate of the grand and glorious State of Indiana, which I am assured is the best senate that money can buy."

It is certainly fine to be here in Virginia. I have been here before, but [illegible] ever had the [illegible] your state [illegible] friends at [illegible] see Miss Ag[illegible] had the opportunity of working when I was secretary of the Indiana State Medical Association.

I had the pleasure of attending last week some of the meetings in this section of the country and among them the Regional Conference of the Southeastern States at Columbia, South Carolina. At that conference there were educators of the South, representatives from labor groups, representatives from farm groups, representatives from the business groups; and it certainly was a splendid meeting. I hope the recommendations of the Conference will be available. They would be a fine basis for a national medical care program.

The title given me is "Ten Commandments of Prepayment". These commandments are prepared particularly for the physician participating in a Medical Society sponsored prepayment program.

TEN COMMANDMENTS OF PREPAYMENT

Number One

Thou shalt not allow the quality of medical service to the individual American ever to deteriorate behind a curtain of prepayment.

Number Two

Thou shalt not take a fee for service from the [illegible]fund and then add an extra ex[illegible] thereto to the patient merely because thou [illegible] get away with it.

Number Three

Thou shalt not disparage the voluntary prepayment system, for American medicine is committed to this method of easing the financial burden of sickness.

Number Four

Thou shalt not oversell prepayment—it is only one of the several elements available to assist individuals in the pursuit of health and is only one answer to the Federal control of medicine. There are many others, as can be seen from the Ten Point National Health Program of the American Medical Association.

Number Five

Thou shalt not damn prepayment with faint praise.

Number Six

Thou shalt readily admit some imperfections inherent in prepayment. At the same time thou shalt indicate that the voluntary and experimental nature of prepayment plans constitutes a great measure of their strength.

Number Seven

Thou shalt do everything possible to help maintain actuarily correct data, and as a participating physician thou shalt willingly provide necessary information which will enable prepayment plans to keep necessary records.

Number Eight

Thou shalt abide by the decisions of the majority in thy society and publicly support the prepayment plan adopted and do thy utmost to make it work.

Number Nine

Thou shalt not, however, become a prepayment "cultist", stating that one particular type of voluntary prepayment system is the only correct method and that all other approaches are wrong.

Number Ten

Thou shalt continue as an American physician to stress the dignity of the individual and the fact that one's health is much more the concern of the individual than it is the concern of any political unit of society and shalt continue to urge all individuals to assume their proper share of this responsibility.

DISCUSSION

MODERATOR MULHOLLAND: I should now [illegible] this meeting open for a few minutes for some q[illegible] We have experts here, and I am sure that they can answe[illegible] any questions you wish to ask. So let's have a few for them.

DR. ERNEST W. FURGURSON, Plymouth, N. C.: Mr. Moderator, Dr. Martin, Dr. Crockett, Mr. Hendricks, ladies, and gentlemen, I regret that I was not able to get here last night. Some of these questions may have been answered previously, but this matter is something which is of definite concern to us country doctors, who do not know the answers. I should like to lay before you one or two of the problems, with which you may already be acquainted.

We have begun, as you know, Dr. Martin, on a project which is possibly as far advanced in our State as it is in almost any State in the Union under the Hill-Burton Act, in that some token hospitals have already been constructed under this program. There has been a bit of high-pressure salesmanship on the part of the Good Health Association under the leadership of our good friend Kay Kyser. It took our people in a grand way, possibly in a good way. Many of these counties have voted hospitals ranging from ten beds or twenty beds to a hundred beds or over. As you know, the University of North Carolina is to have a four-year medical school under this program. The money has already been appropriated by the recent legislature. In Washington County, from which I come, a bond issue has been passed under which the county is to appropriate approximately $50,000. The county gives one-quarter while the State and Federal Governments appropriate the remaining three-fourths. Isn't that correct, Mr. Hendricks?

Now, at the time that this money was to have been appropriated it was estimated that the average cost per hospital bed was approximately $8,000 per bed, according to Dr. John A. Ferrell of the Medical Care Commission. (I may have some of these figures a little wrong, and I hope you will correct me if I have.) At the time this appropriation was made and the bond issue voted upon a thirty-bed hospital would cost $8,000 per bed or approximately $240,000. Today each hospital bed is estimated to cost about $12,000, which leaves a deficit of $4,000 a bed; and nobody seems to know where that $4,000 is coming from. It means an additional bond issue or money from some other source. The county commissioners are given to understand that they have to support these hospitals and to guarantee that they will support these hospitals for a period of two years. I have no opinion on this. I am seeking information. One or two of the county commissioners have discussed this matter with me. They reason: "Let the State and Federal Governments worry about the cost of maintaining these hospitals after the two-year period." Now admitting [illegible] this is the wrong attitude, it will leave us hold[illegible]ing to lead to something very [illegible]hem have that [illegible]l Physicians [illegible]e in these [illegible] into fed[illegible]ithout hav[illegible]ing some de[illegible]

I happen to have been in public health work for several years and in the armed forces for approximately four years; and through that brief experience it has been my impression that, although the Government may tell you that this money is being appropriated to be handled by the county and the county alone or by the State and the State alone, I have as yet failed to see any Federal money appropriated for hospitals, et cetera, to which there were no strings attached. When we come down to brass tacks on this thing it seems to me we are going to run into the old term which is so common among those in Washington: "You have misconstrued this paragraph." The term "misconstrued" has been used a good deal.

I bring these matters to your attention merely because they are problems in our minds which have not been answered. If anyone has an answer I should like very much to hear it.

MODERATOR MULHOLLAND: Dr. Furgurson, we are very glad to have you participate in this discussion.

Dr. Martin, can you answer any of Dr. Furgurson's questions?

DR. MARTIN: Some very difficult questions have been presented. I should like to point out, first, that the Federal part of this grant is one-third. What the state gives in addition varies. In Virginia I believe the State and the Federal government together give 45 per cent, and the community has to give the rest.

It is, of course, inflation that has brought about many of these difficulties—the tremendous increase in costs of construction. There is no answer to that, of course. But I should like to point this out; if the community wants to retain its freedom of action it has to pay for it. There is no such thing as security with complete liberty. When you buy security you pay in the form of liberty. If the community wishes to control its own hospital and facilities, it has to participate in the cost of producing those facilities. It has been stressed time and again that the salvation of a community's freedom is the assumption by the community of its responsibility.

I should like to point out, also that the location of hospitals and medical centers should be on the basis of a well planned program in which the placement of hospitals of different sizes should be determined not by county leaders, not by political groups, but by population needs. Where that has been done—and I believe it is being done in our State—the construction of base hospitals, local hospitals, and health centers has been on a basis of need of the community.

If we are to have such a hospital program each community must assume its share of the responsibility. I know there are communities economically able to do that, and I also know that some are not. There should be provision for granting aid on a somewhat different basis. I believe these grants are now primarily on a population basis, and that no special consideration is given to those with the greater need. That is one of the defects of the present law.

There is no simple answer to these questions, but if the community wants to retain freedom of action it will have to assume part of the responsibility.

MODERATOR MULHOLLAND: Thank you, Dr. Martin.

Is there further discussion of this important subject?

DR. J. PAUL KENT, Altavista: You know that you cannot operate a small hospital on the same per-diem cost as a large hospital. Under the present Welfare Department set-up in this State they will ship patients fifty or one hundred miles—it does not matter how much it costs to transport them—to some hospital that has a lower per-diem cost. We know that in small hospitals we cannot operate at as low a rate as in the larger hospitals, yet we have to have small hospitals if we are going to take care of the rural population.

The next problem I want to take up is the care of veterans. With the present system the physician is a pumping station. I might use pneumothorax or pneumoperitoneum as an illustration. I have a patient at the present time who was started on pneumoperitoneum at the veterans' hospital and personally I feel that he should be on pneumothorax, but I cannot get him changed. All I can do is to pump him up every two weeks. Then I have another patient on pneumothorax who I think should be on that treatment for five years, but some doctor at the veterans' hospital has decided that it should end in two years. We physicians are nothing but pumping stations.

MODERATOR MULHOLLAND: Dr. Martin, will you comment on Dr. Kent's remarks?

DR. MARTIN: We know that any general hospital, in order to function economically, must have 250 or more beds, in order to justify the employment of the necessary personnel and the development of laboratory facilities of sufficient extent and quality to support the various specialities involved. Such an overhead is too great to be borne by smaller hospitals, nor is it necessary. In a population of 3,000,000, we will say, as in the State of Virginia, we need only a limited number of hospitals of the general type. There will also be needed a secondary group of hospitals, not quite so large, nor fully departmentalized, and which do not require all of the resources of the larger hospitals. Then there should be health centers, or small community hospitals, with a few beds and equipped for deliveries and emergency care. Probably eighty per cent of the people requiring hospitalization do not need all of the facilities available in the general type hospitals. That does not mean that they receive a lower grade of medical treatment, since within limits, the smaller hospitals can provide excellent medical and surgical attention. It is economically impossible to build in every county in every state a hospital that can give complete care, but I believe that with a properly integrated system of hospitals, good hospital services can be provided for all of our people. I further believe that if the facilities are properly adjusted to the needs of the communities, the per diem cost will not be higher in the smaller hospitals than in the larger ones.

Veterans should be cared for in their home communities, if and when facilities are available. It is to their advantage to be treated by their local physicians. Community support of its own facilities is hurt by drawing off a part of its potential patients to distant institutions, except for the purpose of securing care not available in that particular part of the community. The large sums proposed for construction of new veterans hospitals should be diverted to the purpose of the Hill-Burton Act. We should have one unified system of hospitals, capable of caring for all of the people and we should avoid the development of special facilities for special groups.

RECENT TREND IN TREATMENT OF OBESITY*

H. E. FERGUSON, M.D.,
Richmond, Virginia.

The cause of obesity has been the subject of much dispute for many decades, and the physician has been taught that obesity is a glandular or metabolic disturbance. Also, that the obese person differs from the one of normal weight in regard to his so-called "glandular balance" or carbohydrate metabolism, and numerous theories have been advanced to account for one person being heavier than another. Conn and others have refuted these theories through thorough investigation and have been unable to find any alterations in endocrine or metabolic behavior from normal.

It is strange that, in general, the medical profession accepts the fact that overweight has a decided effect on decreasing the span of life, and yet have been so lightly interested in a positive and sincere effort to treat or help prevent obesity. Articles have been written, educational programs have been instituted, and even advertisements have been employed to further the public eye for the care and treatment of common infectious diseases. In direct contrast, overweight is discussed occasionally, and the public attention in this regard is very sadly neglected, whereas, if the problem of obesity was discussed, a far greater benefit in increasing the life span and combating retrogressive changes could be attained more readily than that of practically any other dysfunction or disease.

The obese patient has always been a problem to the physician, and any practically established routine towards a solution of treatment is more than welcomed.

Obesity may be defined as an excess of adipose tissue, and the latter is a normal constituent of the body, performing a number of functions in the body metabolism. It is generally agreed that some individuals are obese because they eat more food than they burn to release energy. Some investigators hold that all obesity was caused by internal metabolic and endocrine factors which are independent of the relationship between food intake and energy output.

The writer believes that the first view is more evident, and to control one's appetite, with only slight additional stimulation of endocrine factors, satisfactory weight loss or control can be executed. However, it is to be remembered that there are a variety of psychologic factors which increase one's desire for food and have to be taken into consideration. Many of these factors we are unconscious of, while others can be controlled by the patient if they so desire. Anything which will increase the emotional tonus as irritability, anxiety, nervousness, and sorrow will further the desire for food and cause an increase in weight in many persons already leaning towards obesity. It is obvious that all obese patients cannot consult a psychiatrist regarding these factors that drive or create the craving for food, but the majority of persons can be helped by the physician who will attempt to understand the reason for their overeating and give them a helpful and applicable explanation for same.

One may say "This is all true", but to instruct a patient to refrain from eating and adhere to a diet of 1000 calories per day is almost an impossible task, especially if they are heavy eaters. At first one would think it an almost hopeless task, but through co-operation of persons in controlling their diet, fluid intake, and giving them a clearer psychological understanding of why they gain weight, and the promise of aid in helping them control their appetite, it can be accomplished.

It is with this thought in mind that the writer began to use such a method to attain weight reduction in those individuals who are both physically and mentally uncomfortable with their unsightly deposits of adipose tissue.

During the past three years, the writer has had under observation and treatment over three hundred and sixty cases of obesity in all age groups and in both male and female. Only about 2% have failed to respond definitely to this line of therapy that will be described. The treatment routine involved the understanding of the patient from a physical as well as a psychological point of view, which is most important. A complete physical examination, including complete blood count, B.M.R. and urinalysis was made after a careful history in

*Read before the annual meeting of the Medical Society of Virginia, in Richmond, October 18-20, 1948.

order to ascertain any organic change that might cause increased irritability which we know so frequently plays an important part in excessive eating. The physician ascertains these facts of tension and can often determine the cause and explain to the patients the actual reason for their excessive desire for food which will aid them in successfully combating this reaction. Rather than placing them on a calculated diet and to eliminate the tendency towards "food cheating", these persons are asked to cut their sweets and starches in half, and eat a diet consisting chiefly of green vegetables, fruits, and low in fats and proteins. They are also instructed to omit from their diet any substance which would trend to whet their appetite as condiments and beverages. If this type of dietary instruction proved hard to follow, they were given a diet specifying the caloric values of certain foods and instructed not to exceed 1200 calories per day. Next, these persons are given a drug to help control the appetite. Many drugs have been used for this purpose with varying degrees of success, but the most effective used by the writer was dextro-rotatory amphetamine, and adrenergic drug. This one was found to possess less side reactions as insomnia, irritability, tenseness, and nausea, and yet included the most powerful appetite depressant factors. It is given in v mg. doses, thirty minutes a.c. for a week, and if the appetite does not begin to abate, this was raised to x mg. a.c. Seldom is it necessary to raise the dose to exceed 30 mg. daily. The appetite would begin to be noticeably less in about a week, in that the patient would not want the excessive food they have been eating before, and being perfectly satisfied with much less caloric quantity. They were likewise gaining a very rapid sense of well-being and much less depressed in their moody expressions.

These patients were seen every two weeks and sometimes every four weeks, depending on how they tolerated and responded to the routine. They would be weighed, blood pressure checked, and heart studied for any gross abnormalities that might have developed. Weight loss would vary from two pounds to ten pounds per week, depending on the amount of obesity present beyond normal weight. After reaching the physical weight level of normal thyroid metabolism activity, the drug would be withdrawn slowly, and over a period of usually one-half the time required to obtain the desired weight loss. This way, the patient does not complain of a "let down feeling", and right at this point the writer would like to state that not a single person was encountered that developed a craving for the drug used in the treatment and complete withdrawal could be executed at any time during the course of the routine.

There has been much publicity in the lay magazines and papers recently, warning the public against the harmful effects of amphetamine and amphetamine-like drugs. These effects are stated as being over-stimulation of the heart, addiction and emotional upsets. If taken, as prescribed, properly for the reduction of appetite in weight reduction routine, there is little danger that one will get an over-stimulation of the heart or nervous system or become addicted to its effect. There is no proof in the literature, and the writer certainly has not noted any findings that would lead him to think that amphetamine induces organic damage in any respect. The only side-reaction that was encountered is that of dryness in the mouth and throat, a slight mild constipation and insomnia if taken too late in the afternoon. One might ask about the hypertensive patient. No increase in blood pressure or pulse rate was encountered. It has been given in the cases where the blood pressure was over 200 systolic and 100 diastolic without any ill-effects, and these patients have obtained a very marked sense of relief and a drop in blood pressure many times. Occasionally, a small dose of phenobarbital is added to the routine p.r.n. for any nervous tension that might occur in the pre-existing nervous cases. This action in the hypertensive is very helpful because we see so many so-called "fat people" that are hypertensive and need weight reduction for physical existence in prolonging the span of life.

SUMMARY

The cause of obesity is certainly a subject of dispute and there is little evidence that obesity is entirely a glandular or metabolic derangement. Psychic factors are of importance to gain complete confidence of the patient for best results when the medicine is added as a depressant to the appetite. Adhering to the strict routine is of primary importance, and we learn that the dextro-rotatory amphetamine (dexedrine sulfate) is not very toxic and may be safely employed in normally obese individuals regardless of age, sex or degree of obesity, or in minimal hypertensive individuals.

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DISCUSSION

DR. JULIAN R. BECKWITH, Clifton Forge: Dr. Ferguson brings out several points in his paper which are important and deserve emphasis. First, he mentions the price that many people pay for their gustatory satisfaction. It has been shown that the death rate per 100,000 is considerably higher in obese persons than in individuals with normal weight. The death rate from diabetes is 2.5 times and that from cardiovascular disease 1.6 times that of controls who are not obese.

Second, he mentions that the mechanism of obesity is simply increased food intake over that required for the daily energy needs rather than some obscure endocrine disturbance which allows the obese person to absorb or store more fat or burn less than his normal thin brother (or sister).

It is with this in mind that one approaches the management of the obese person. It appears wise to give these people an adequate protein requirement to keep them in nitrogen balance (this is usually given as 1 gm. per kilo of normal weight) and to reduce the carbohydrate and fat so that they get 800 to 1200 calories in 24 hours. It must be assured, also, that the vitamin intake is adequate, which requirement can be met by giving a multivitamin capsule daily.

Some individuals, particularly men doing fairly heavy work, should be given more calories, but the energy expended must be greater than the caloric value of the food intake.

Obese people must learn to control their appetites and must train themselves to form proper eating habits, so that when the desired weight has been attained they will maintain this weight. To do this, the importance of determining the cause of obesity cannot be emphasized too much. Faulty eating habits should be corrected, and emotional upsets delved into.

The anti-appetite drugs can be used as a crutch to help the individual train himself at the outset. These drugs, we feel, are helpful but not necessary. We often use them at the beginning but stop after three or four weeks. I find that the person who is honestly desirous of losing weight will continue to do so without the medication.

Now a word about exercise. This is a poor way to lose weight, particularly when we realize that a 250-pound person must walk 26 miles to burn one pound of fat or climb 20 flights of steps to expend the energy from one slice of bread. Dr. Ferguson was wise not to introduce this as a form of therapy, and it was mentioned merely to condemn it.

I have enjoyed Dr. Ferguson's paper, and I appreciate the opportunity to discuss it.

Marriages and Divorces

In the United States continued to decline for the second successive year in 1948, Surgeon General Leonard A. Scheele of the Public Health Service, Federal Security Agency, has announced.

The Public Health Service estimated that there were 1,815,000 marriages and 415,000 divorces last year. The number of divorces has taken a sharp dip over the last two years. There were about one-third fewer divorces in 1948 than in the peak-year 1946, when it was estimated that 610,000 divorces were granted. Compared with the revised estimate for 1947 of 474,000 divorces, there were about one-eighth fewer divorces in 1948. In the same years, the divorce rate also declined sharply, dropping from 4.3 per 1,000 population in 1946, to 3.3 per 1,000 in 1947, and to 2.8 per 1,000 in 1948.

Marriages have also dropped in the last two years. The decline in 1948 from 1946, the only year in which there were more than 2 million marriages was about one-fifth, or close to one-half million marriages. The 1948 figure was about one-twelfth below the revised total of 1,991,878 marriages in 1947. Marriage rates in these years were: 12.4 per 1,000 in 1948, 13.9 per 1,000 in 1947, and 16.4 per 1,000 in 1946.

EXPERIENCES WITH LOW SODIUM DIETS*

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In recent years we have heard much about the use of low sodium diets in the treatment of cardiorenal diseases. In this paper I will give some of the historical background for these diets and then some illustrative cases.

Starling's theory—proposed in the year 1900—states that edema is the result of an imbalance between the intracapillary blood pressure on the one hand and the osmotic pressure of the blood plasma on the other. One tends to filter water through the capillary endothelium and the other to pull water back into the capillary lumen. In health there is a perfect balance between the two.

This theory is generally accepted and explains the development of most types of edema. Thus, in cardiac edema the main disturbance is an increased capillary blood pressure, whereas in nephrosis and in the late stages of chronic nephritis the chief disturbance is a decrease in plasma proteins and a consequent decrease in the plasma osmotic pressure.

In acute nephritis it is assumed that edema is due largely to a generalized damage to the capillary endothelium, since in this disease edema occurs early before any significant change in the plasma proteins or capillary blood pressure. The high protein content of this edema fluid is evidence that the capillary walls are no longer impermeable to the plasma proteins as they normally are in the healthy state. The protein content of edema fluid in acute nephritis is about 1%, which is approximately ten times as much as that of the edema fluid of congestive failure and nephrosis. In acute nephritis, congestive failure is sometimes an added factor and is due apparently to oliguria and the associated hydremia.†

In 1903 Widal, in the first of several epochal papers, reported the results of his experiments showing that damaged kidneys could not excrete sodium chloride normally. He found that edema could be increased or decreased by feeding or withholding salt. It was assumed that the chloride ion was the harmful one. Numerous investigators between 1920 to 1925 proved conclusively by feeding various salts with the chloride or the sodium ion left out, that it is not the chloride but the sodium ion which is the essential factor in edema formation.

More recently, in 1941, Schroeder in a study of twenty-three cardiacs reported that patients with congestive heart failure could be kept free of edema if their sodium intake was sufficiently low. He found that if sodium chloride intake is kept as low as one gram per day, restriction of fluids is not necessary. It is possible to supply an adequate diet with this little sodium if vitamin supplements are given. In two patients forcing fluids caused the syndrome of water intoxication—weakness, drowsiness, muscle cramps, prostration and no resulting diuresis. In one of these hypochloremia was found; plasma chlorides were not determined in the other. Patients with pulmonary edema or cardiac asthma had no increased frequency of attacks with forced fluids. Schemm later reported exactly the same finding. The ordinary ward diet, to which no salt or salted foods is added, contains about four grams of sodium chloride; one cooked without salt contains an appreciable amount, from 2 to 3 grams. One gram of salt is present in the average serving of beets, carrots or lamb, and in 800 cc. of milk. Restriction of the daily salt intake below the level of the daily urinary output of salt, always decreased the edema. Occasionally diuresis was observed to increase when the patient was taking plenty of fluids and to decrease when fluids were rigidly restricted. "These studies suggest that restriction of salt is important in the control of the edema of congestive heart failure, but that restriction of fluids is of little value."

In 1942 Ellis studied seven patients with congestive heart failure and found that if water intake was pushed beyond 3000 cc. a day the edema increased even though the salt intake was maintained at 1 gram daily. He recommended moderate water restriction as well as rigid salt restriction.

Coller and Maddock in numerous papers reported their important studies on water balance in surgical patients, showing that post-operative

*Read before The Lynchburg Journal Club, April 20, 1948.

†Recent work shows that nephritic edema fluid has very nearly the same protein content as cardiac edema fluid and emphasizes the prime importance of heart failure.

"shock" and kidney failure were due largely to an insufficient supply of fluids and to abnormally large losses of body fluids, inadequately appreciated before then.

The above introduction is all too brief but will serve to acquaint us with some of the factors in edema formation and water balance. At the present time we may accept it as an established fact that patients with congestive heart failure or nephritis get along better when given diets low in sodium. It is not so generally accepted but probably true, too, that cases with essential hypertension also will do better on diets low in sodium. My own experience deals with the use of several of these diets:

1. The Schemm diet for congestive failure: The essential features of this diet, or, more strictly speaking, regime, are three—

(1) A low sodium intake—around 2 to 3 grams daily

(2) A neutral or acid ash diet

(3) A high fluid intake

2. The Karrel diet for congestive failure: This contains 800 cc. of milk and nothing else. This amount of milk contains 1 gram of sodium chloride. Gold and his associates at Cornell Medical School advocate larger quantities of milk—in fact, all the patient wants—no other food in the early days of treatment of a severely decompensated cardiac. They keep a patient on this diet for 2 or 3 days up to 10 days.

3. The Kempner diet for hypertensive and nephritic patients: This diet is composed of rice, fruits, sweets, a little oatmeal, bread and milk, supplemented with vitamins and iron. It is extremely low in salt, having less than .4 gram.

For details of the Schemm and Kempner diets one is referred to the original articles. Now I wish to present a few selected cases in whom these diets have been used.

CONGESTIVE HEART FAILURE

Case 1.—Mr. H. P. H., a 68 year old meat cutter, was seen on February 10, 1947. In April of the preceding year he had had an attack of substernal pain and remained in bed for two days and since then had felt very weak, short of breath, and the feet and legs had been swollen. He had kept a cough and was unable to sleep because of this; he could not lie down. Examination revealed a tall, fairly well nourished man in severe congestive failure. His pulse was 84, totally irregular, respirations 22, B.P. 195/125 in the right arm, and 190/122 in the left. Unless otherwise specified, all blood pressures were recorded in the right arm with the patient seated. There was marked cardiac enlargement to the left; the sounds were of poor tone; at the apex was a long, blowing, medium pitched systolic murmur grade 2. The aortic second sound was slightly accentuated and louder than the pulmonic—no diastolic murmur was heard. There were signs of fluid at the right base and moist rales at the left base. The urine contained 2 plus albumen, a few white and red cells, and the specific gravity was 1.015. His E.C.G. showed left ventricular hypertrophy and ventricular premature beats. The sedimentation rate was normal. The diagnosis was hypertensive heart disease, congestive heart failure, enlarged heart, general anasarca, right hydrothorax and probably an old myocardial infarct. He had been taking .1 mgm. digitaline twice daily. Treatment consisted of no change in digitalis, ammonium chloride 7½ grains and one B. complex tablet after each meal, and Schemm's full neutral diet. One week later he had lost 23 lbs., from 203 to 180. The pulse was 80 and regular, and his B.P. was a little lower 188/110. Over the next two months he gradually improved and lost all signs of congestive failure. He had several injections of mercuzanthin during the first two months. He was last seen on December 27th, still compensated, pulse 72, with an occasional premature beat, respirations 18, B.P. 180/90, weight 175. He was then taking digitaline 1/10 mgm. daily.

This case had been in severe congestive failure for ten months. On the Schemm diet he improved fairly rapidly and has been much more comfortable. He had already taken full doses of digitalis and this was later decreased. Ammonium chloride and a mercurial diuretic were used during the first two or three months of treatment.

Case 2.—Mr. C. M. A., age 73, had a marked hypertension with moderate cardiac hypertrophy and auricular fibrillation since 1944. He had been digitalized and seen regularly in the office. His B.P. had gradually climbed, and in December, 1947, this was 235/110 in spite of thiocyanates and sedatives.

On March 7th he was seen in obvious congestive failure with evidence of a small amount of fluid

at each base, respirations 30, B.P. 230/95. The liver was three fingers down and there was 2 plus edema of each leg. His pulse and apex rate were slow—55—and his digitalis was stopped. He was placed on a diet of milk only, as much as he wished, and given ammonium chloride 7½ grains t.i.d. Six days later he had lost 16½ lbs. and looked and felt very much better. His pulse had come up to 64. Digitalis was resumed in smaller doses. His B.P., however, was still rather high 220/92,— so he was then placed on Kempner's rice and fruit diet. Two weeks later he had lost another 4 lbs. and all signs of congestive failure were gone. Because of losing so much weight, which was probably not all edema, he was urged to eat more bread and rice and drink more milk. Eleven days later he felt much stronger, had gained 8 lbs. with no obvious increase in edema, and his blood pressure had come down to 184/90. This was 220/92 at the former visit. A troublesome nocturia had largely disappeared.

This case illustrates the rapid clearing of congestive failure with a milk diet, and further improvement with lowering of B.P. on the rice and fruit diet. Over digitalization may have been a contributory factor in his failure. As a rule older patients are not very tolerant to any radical dietary change.

Case 3.—Mr. W. W. W., a 73 yr. old farmer, was seen in the office on March 29, 1947, in severe congestive failure. He had hypertensive heart disease with marked cardiac enlargement, generalized arteriosclerosis and left ventricular failure. His electrocardiogram showed sinus tachycardia—102—left ventricular strain and frequent auricular premature beats. The arrhythmia was interpreted clinically to be auricular fibrillation. His respirations were 22, B.P. 190/110, vital capacity 2.6 liters (55% of normal). He weighed 190. Treatment consisted of buttermilk, one glass every two hours, digitaline .2 mgm. t.i.d. for six doses, then .1 mgm. daily, and ammonium chloride 15 grains q.i.d. for 3 days. He was seen in the office three days later and was feeling very much better. At that time he was given mercuzanthin 1½ cc. intravenously. He had lost 15 lbs. He was then put on Schemm's neutral diet. His pulse rate was 78 and still very irregular due to premature beats. Two weeks later all signs of congestive failure had disappeared, and he had lost 3½ more lbs.; his pulse and apex rate were 60 and regular, respirations 19, B.P. 155/96 (this had been 190/110), vital capacity 4.5 liters.

This case illustrates again the rapid clearing of congestive failure with a milk diet and later Schemm's diet plus digitalis, ammonium chloride and one injection of a mercurial diuretic.

HYPERTENSION

Case 4.—Mrs. W. H. A., a widow age 65, complained of frequent headaches. She was seen a number of times during the latter half of 1945 and during 1946. Urinalysis was negative and several NPNs were normal. The fundi were essentially normal. Her B.P. varied from 170 to 190 systolic over 90 to 100 diastolic. In 1945 her B.P. was 200/120 on one occasion, and on another 185/105. She smoked about 20 cigarettes daily and drank very little water. On Nov. 25, 1947, she was seen at the office complaining of daily headaches for several weeks. Her B.P. was 190/100. She was given White's low sodium diet and a mild sedative (bromide and chloral mixture) and instructed to drink 8 glasses of water daily. Three weeks later she had gotten rid of her headaches, was sleeping much better and felt like a different person. She had stuck rigidly to the diet, and had used salt free bread and butter. Her weight was 119 lbs., unchanged, and her B.P. had dropped from 190/100 to 145/80. Four months later she was still feeling well, having no headaches, and maintaining her weight. She had been allowed to use regular bread and butter. Her B.P. had increased some, but was still a good figure 160/85.

This case improved a great deal symptomatically on a low sodium diet. Her B.P. was only moderately elevated but decreased an appreciable amount.

Case 5.—Mrs. W. G. C., had been seen at the office at irregular intervals since 1945. On July 30, 1947, when she was 58 years old, she came in complaining of headaches. She was slightly obese. Her physical examination was negative except for her B.P. of 200/120. Ten months before this it had been 160/94. Urine examination was negative. Treatment consisted of a bromide and chloral mixture and a 1000 calorie Schemm diet. Two weeks later she felt much better, had lost five lbs., and her B.P. was 145/85. One month after that she had lost about 3½ more lbs., still felt well, and her B.P. was 158/86. When last seen

on February 14, 1948, she had gained a few pounds, but her blood pressure was still good—168/86. The diet was still low in salt but her calories had been increased. It seemed obvious that her marked decrease in B.P. was attributable largely to the Schemm diet.

NEPHRITIS

Case 6.—W. J. A., had been seen regularly at the office since October, 1940, when he was 66 yrs. old. At that time the clinical diagnosis was chronic nephritis with hypertension and hypertrophied prostate. He was moderately obese, six feet tall, weighed 230 lbs., B.P. 210/120. He was given a reducing diet and lost down to 190 lbs., with marked decrease in his hypertension, his B.P. stabilizing around 155/90. He took ½ grain of thyroid daily. In 1945 he underwent a prostatectomy and had a stormy course but made a good recovery. Over the next two years his B.P. gradually increased, and on April 28, 1947, this was 245/128. He had had signs of congestive failure for the preceding month which disappeared with the Schemm diet and digitalis. He remained compensated until January of this year when he had cardiac asthma, or rather, nocturnal dyspnea several nights in a row. He is now 74. He was seen in the office on January 23rd, 1948, with a B.P. of 235/125, respirations 22, vital capacity 3.1 liters and moist rales at each base. He was hospitalized and put on buttermilk every two hours. His NPN was 70, and urine loaded with albumen and casts as it usually was. The milk diet was continued for three days, and it was then changed to the Schemm diet. His pulmonary congestion and nocturnal dyspnea disappeared but his NPN remained elevated, and on leaving the hospital ten days later was 77. Eleven days after this, on a strict Kempner diet, the NPN had decreased to 54, and thirteen days later, on March 31, was down to 32. There was concomitant improvement in B.P., which came down to 190/90. His vital capacity improved likewise—this was 4.4 liters on March 15th. His nocturia, which had been four to five times nightly, practically disappeared. He complained bitterly of the diet and at his insistence was allowed to add meat and vegetables. This caused a definite rise in B.P. and an increase in his NPN. On April 12th his B.P. was 250/125 and NPN 50 mgm. The urine contained heavy albumen but the microscopic showed only a rare pus cell.

This case of chronic nephritis showed marked improvement under the Kempner diet. Of course, the prognosis is still very poor but he will undoubtedly live longer if he adheres to his diet, which is doubtful. (He died of uremia on November 11, 1948.)

Case 7.—Frank A. McQ., a 45 year old railway agent, was referred to me Feb. 2, 1948, by Dr. J. E. Haynsworth, with a history of a "cold" and "sinus infection" for three weeks, marked shortness of breath, fullness in abdomen, and marked swelling of the feet and legs for one week. One month before he had a peritonsillar abscess. After a physical examination and blood and urine examination it was obvious that he had an acute nephritis with resulting congestive failure. His pulse was 84 and regular, respirations 20, temperature 99, B.P. 194/112 in the right arm seated. There were signs of fluid at the base of each lung. The sinuses were clear. His weight was 240 lbs., height 5 ft. 11″. He was hospitalized at the Virginia Baptist Hospital where he remained for ten days. His urine on admission had a S. G. of 1.015, 4 plus albumen, a moderate number of red and white blood cells with few clumps, and a few hyaline and granular casts. His NPN was 39 mgm. per 100 cc. He was given fruit juices only the first three days, then cereal, toast, milk and fruits, and after eight days he was put on Kempner's diet. He was also given penicillin, 50,000 units every three hours for eight days. He improved dramatically in the hospital. His B.P. after four days was 170/100 and he had lost 26½ lbs. After ten days in the hospital his B.P. was 154/92; on Feb. 25th it was 130/86. On March 26th, his last visit, his B.P. was 132/86 and weight 207, a total loss of 33 lbs. The urine had a S.G. of 1.020, was acid, yellow and clear and contained no albumen or sugar. Microscopic examination showed an occasional white and red cell and hyaline cast. He looked and felt well. X-ray of his chest showed the lungs clear and a marked decrease in the size of the heart shadow from the first visit. His sedimentation rate at his first visit was 25 mm. in one hour (Cutler) and three weeks later was 17 mm. in one hour. This was not done at his last visit. At present he is on a general diet with the exception of very small amounts of meat and no salt.

This case of acute nephritis with congestive failure improved rapidly and dramatically with fruit juices at first, and later Kempner's rice and fruit

diet, supplemented with penicillin. He was not given any digitalis.

Undoubtedly in some of these cases a favorable response was due to the fact that the diet was low in calories, but this is not the whole answer. Many hypertensive cases have been observed in whom marked reduction of B.P. and symptomatic improvement has been obtained where the weight remained stationary or even increased. One sympathectomized case had a very good post-operative improvement with a general diet but after one year her B.P. had climbed considerably. With a low sodium diet and no loss of weight she has had a marked drop in blood pressure—with clinical improvement. So, even in these surgically treated patients, it may be wise to continue a low salt regime.

The above few cases serve to illustrate the favorable response that can be expected from the use of low sodium diets in properly selected cases.

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Radioiodine Effective Against Toxic Goiter.

Ninety-five of a series of 100 patients treated for toxic goiter with radioiodine show improvement, reports Robert H. Williams, M.D., Seattle, formerly of the Department of Medicine, Harvard Medical School, Boston.

Writing in the April 16 J.A.M.A., Dr. Williams says that the condition has persisted in only five of the group. The disease has been in remission more than a month in 92 of the patients, and 80 have had no reappearance for more than four months. Three have been well more than two years. Forty of the group had been treated previously with thiouracil, a drug frequently used against toxic goiter, and 21 had surgery for the condition.

"In most of the 78 subjects with diffuse enlargement of the thyroid, the gland decreased to an essentially normal size," Dr. Williams points out. "Each of 22 patients with toxic nodular goiter [a form in which the thyroid enlarges from nodules in the gland] had a decrease in size of the thyroid, but, in a few, significant enlargement persisted despite large doses of radioiodine."

Treatment with radioiodine is "relatively inexpensive" and is not associated with significant physical or emotional discomfort, according to Dr. Williams. In the majority of cases, he found, a remission of hyperthyroidism can be produced in six months. He states that the main drawback of the treatment is the difficulty involved in selecting the appropriate dosage, errors in which may cause myxedema or permit the thyrotoxicity to persist.

CALCINOSIS—REPORT OF A CASE

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The abnormal deposition of calcium within the body may be divided into three main groups: Progressive Myositis Ossificans, Metastatic Calcinosis, and Calcinosis. The case reported here would seem to fall in the latter classification.

Calcinosis: Weber[1] in 1878 reported the first case of calcinosis, and Verse[2] in reporting a case first used the term calcinosis universalis. Steinitz[3] classified the cases of calcinosis into two groups: Calcinosis circumscripta and calcinosis universalis. Calcinosis circumscripta is a deposit of calcium in the subcutaneous tissue and usually attacks primarily the hands and feet. It rarely occurs in children. Calcinosis universalis is the deposit of calcium not only in the subcutaneous tissue, but also in the muscles and sometimes along the nerve trunks, especially those of the extremities. The hands and feet, however, are not often involved and the number of deposits tend to decrease from the trunk toward the hands and feet. This disease is frequently encountered in children and may be seen even in the first six months of life. Steinitz found only 34 cases of calcinosis universalis in his collection of cases of all ages.

Many theories have been advanced regarding the pathogenesis but none seems to have received universal acceptance. The disease is generally considered to be due to a disturbance of calcium and phosphorous metabolism even though the blood values are usually normal. Others have also attempted to show that the calcification usually occurs in tissues that were dead or devitalized to a certain degree and that fatty degeneration frequently precedes the calcification. Microscopic studies, however, of early cutaneous calcinosis show the deposition of calcium in and around the fat cells which otherwise appeared histologically normal.

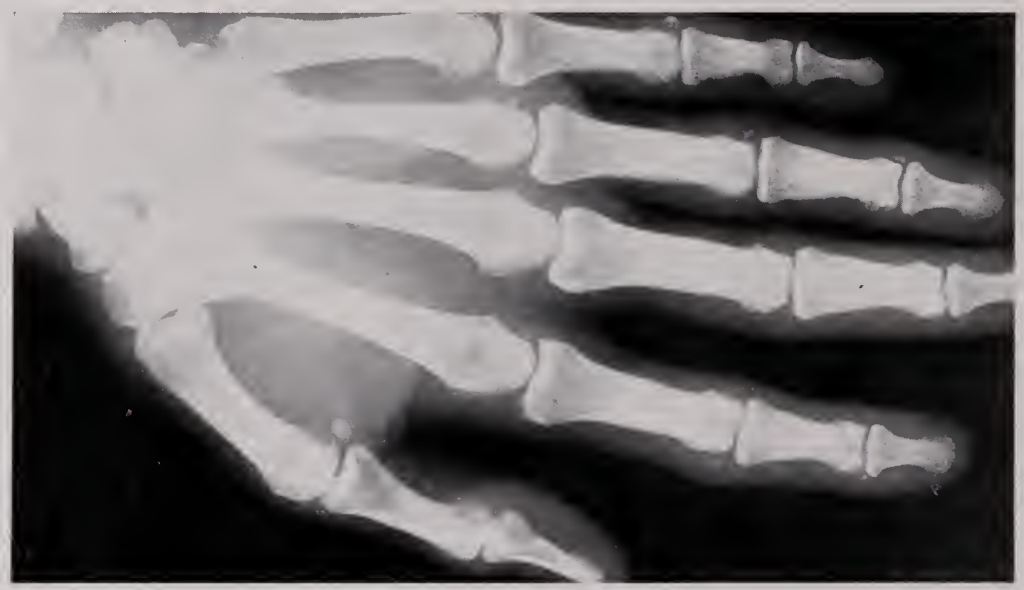

Fig. 1: Right Hand: Calcific deposits in region of many of the proximal interphalangeal joints of both hands and in the region of several of the distal interphalangeal joints. Soft tissue swelling in region of the proximal interphalangeal joints.

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Another feature of the disease is its frequent association with lesions of the skin and vascular system. At times it is found in conjunction with skin lesions very closely simulating scleroderma and a Raynaud's type of syndrome involving both the upper and lower extremities may be present. Atrophic changes in the skin are frequent and are usually very troublesome.

Various programs have been offered in the treatment of this disease, no single one of which has been universally accepted. Ramsell[4] in 1935 reported marked improvement in a ten year old girl following bilateral parathyroidectomy and this writer has continued to be enthusiastic about this treatment. In 1942 Bartel and Catell[5] likewise reported beneficial effects after a parathyroidectomy performed on a boy of fourteen years. Byron and Michalover[6] reported unsatisfactory results following a parathyroidectomy. Other treatment regimens advocated have been the intravenous injection of a phosphate solution by Craig, Lyall[7], and others, and another has been the use of very large doses of sodium citrate by mouth. Recently, the use of British Anti-Lewisite (B.A.L.)[8] by intramuscular injection has been advocated. Observations on this form of treatment have not been sufficiently large or over a sufficiently long period to evaluate its results properly. Other treatment regimens have consisted of the use of various endocrine products without satisfactory results, and a wide variety of vitamin preparations without demonstrable benefit.

CASE REPORT

E.C.W., a 24 year old white male, was admitted to the Veterans Administration Hospital, Richmond, Virginia, April 26, 1946, for the treatment of a recurrent dislocation of the right shoulder which had been present intermittently since 1941 following an injury. This was corrected by a Nicola type of repair on May 7, 1946, with good results.

During his hospitalization the patient gave a history of progressive pain and stiffness with some noticeable swelling of the finger joints since discharge from the Army in October, 1945. Interestingly enough, he described the onset of the pain in each of the involved joints as a sharp, "sticking" pain which gradually changed to a dull ache. He stated that no injury, infection or emotional stress preceded the onset of these symptoms. No other joints were involved except the right shoulder mentioned above. He had been in good general health, had been working regularly, and his past medical history was essentially negative for any joint disease. He served in the United States Army from December 2, 1942, to October 24, 1945, as a water tender, and in an environment which, he states, subjected him to no undue exposures or trauma.

Physical Examination: The patient was a well developed, well nourished, alert, active, white male. Temperature 98.4, pulse rate 80 per minute, blood pressure 120/70, weight 134 lbs. The head and neck were normal, as were the heart, lungs, and abdominal viscera. Extremities: The proximal interphalangeal joints of both hands showed moderate soft tissue swelling without redness or increased heat. On pressure over the joints, the patient stated that he felt a "sticking" type of pain as if some small, sharp object was present under the skin. There was a moderate degree of stiffness in these joints and on full flexion, he experienced pain. The distal interphalangeal joints and the metacarpophalangeal joints were negative to physical examination and there was no significant atrophy of the interosseus muscles. There was a marked thickening of the peripheral vessels particularly noted in the brachial arteries. The neurological examination was negative.

Fig. 2: Knee: Irregular calcific deposits in the deep tissue of the popliteal space in the region of the popliteal artery.

Laboratory Data: Routine laboratory studies

which included a complete blood count, urinalysis, and serology were negative. *Blood Chemistry*: Blood alkaline phosphatase 3.4 units. Blood calcium 10.8 mg. Blood phosphorus 3.6 mg. Uric acid 4.8 mg.

X-Rays: 1. *Both hands:* A fusiform swelling of a moderate degree present in the region of the proximal interphalangeal articulations of both hands and calcific deposits in the region of the above mentioned joints were present. These calcific deposits were present also in the distal interphalangeal joints. 2. *Right shoulder:* Bones and joints normal. Pinhead sized calcific areas noted in the soft tissues in the region of the deltoid bursa. *Left shoulder:* There is probably an area of calcification in the soft tissues at the level of the greater tuberosity of the humerus. 3. *Both knees:* Irregular calcific deposits present in the region of the popliteal vessels. 4. *Both ankles:* Calcification in

Fig. 3: Right ankle: Dense calcification deep tissue anterior surface in the region of the dorsalis pedis artery.

the region of dorsalis pedis on the right side. 5. *Both feet:* Pinhead sized calcific areas present in the soft tissues around several of the phalanges. 6. *Lateral view of the neck:* A small area of calcification present in the soft tissues anterior to the 7th cervical vertebra. 7. *Chest:* Normal. 8. *Skull:* No abnormal calcification. 9. *Abdomen:* No evidence of abnormal calcification.

Hospital Course and Treatment: The patient was placed on a ketogenic diet with 1 gm. of ammonium chloride four times a day, but due to the fact that he had pressing business obligations on the outside, he was not observed on this therapy for more than ten days. There was no noticeable change in his clinical course during this time, and he was discharged on the same dietary regimen and medication, and advised to return in about six weeks for further observation.

Second Hospitalization: The patient was readmitted to the Veterans Administration Hospital 14 months later on August 8, 1947. Since his discharge from the hospital, he had been working with fair regularity as an insurance salesman. He had not followed his diet or taken his medication, however, and stated that there had been a more or less steady increase in the pain and stiffness of his hands. He had also noticed during the interval a beginning stiffness in his knees. This was particularly noticeable after a full day's work. In addition, he had noted some stiffness in his elbows with a peculiar grating, scraping sensation on function which felt as if some foreign body were present.

Physical Examination: The patient showed no change in his general physical appearance except that he gave the impression of rather marked weight loss. Temperature 98.6°, pulse rate 80 per minute, weight 124 lbs., blood pressure 100/60.

Joints: The proximal interphalangeal joints continued to show swelling without redness or heat and there was possibly some moderate increase in stiffness in these areas. He still showed no involvement of either the distal interphalangeal or the metacarpal phalangeal joints. Interestingly enough, the interosseal muscle of the hands showed no evidence of wasting. The elbows appeared slightly enlarged without redness, tenderness or increased pain.

Peripheral Vessels: There was still a marked degree of thickening and some beginning tortuosity of the peripheral vessels particularly noted in the brachial arteries. The retinal vessels did not appear abnormal. Examination of the heart was negative and there were no other positive objective findings.

Laboratory Data: Again routine blood counts, urinalyses, and serological tests were negative. Blood Chemistry: Blood calcium 9.1 mg. Blood phosphorus 3.6 mg. Electrocardiogram: Rate 80, PR 12, Rhythm regular, P-waves normal, QRS normal, T-waves diphasic in Lead 3. Interpretation: Normal Electrocardiogram.

Hospital Course and Treatment: Inasmuch as the patient had not followed his ketogenic diet nor taken his ammonium chloride with regularity during the interval between the hospital periods, it was

decided to continue him on this therapy for the time being. He was discharged within a week with no noticeable change in his clinical picture with instructions to return in six weeks for further observation. This instruction was not followed, however, and the patient has not been heard from since his discharge.

CONCLUSION

1. A case of calcinosis in a 24 year old white male is reported.

2. The case reported does not seem to fit typically into the classification of calcinosis circumscripta or universalis.

3. The disease is generally considered to be a disturbance of calcium and phosphorus metabolism, although proof of this is lacking.

4. Various methods of treatment, both medical and surgical, have been attempted without striking results.

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Bibliotheca Obstetrica

MILLER, PETER (1773-1848): An essay on the means of lessening the pains of parturition. Philadelphia: Printed for the author by Hugh Maxwell, 1804. 38 p. 23.5 cm.

This graduation thesis is dedicated to Philip Syng Physick, M.D. fittingly enough, for the "Father of American Surgery" was a great believer in the relaxing effect of blood-letting. Dr. Miller's thesis is an amplification of Dr. Benjamin Rush's letter on the same subject that is to be found in the 6th volume of the Medical Repository (p.26).

There is nothing concerning Dr. Peter Miller in the usual medical biographies. Dr. W. B. McDaniel, II, the Librarian of the College of Philadelphia, has kindly furnished me the following account, taken from the History of Blockley, (Philadelphia. Davis. 1929. pp. 430-31) "Dr. Miller was born December 26, 1773 and was graduated from the medical department of the University of Pennsylvania in 1804. In 1805 he was elected a member of the Medical Staff of the Philadelphia Hospital, serving until 1811 when he was transferred to the Surgical Staff, a position he continued to hold until 1822.

"It is presumed that he practiced in Philadelphia as he died in Philadelphia, being buried from his late residence, the house of Mrs. Welling, No. 161 Chestnut Street, below Fifth. His death occurred on Tuesday evening, May 16, 1848, after a painful illness. He was buried in Laurell Hill Cemetery."

RHABDOMYOSARCOMA: ITS DISSEMINATION AND RESPONSE TO RADIATION

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Rhabdomyosarcoma is one of the malignant sarcomas of soft tissues. This tumor has been reported in very young infants,[8] but is more common in adults with its greatest incidence around the fifth decade. The common sites of origin are the skeletal muscles. It has been described, however, in other sites, such as the genito-urinary system,[7] the respiratory tract, the alimentary tract, and the brain. Even teratomata are not always free of this new-growth.[3]

Rhabdomyosarcoma has not been considered a frequent malignant tumor of soft tissues, but its incidence is so high that it warrants consideration every time a growing tumor of soft tissues is being biopsied.

Clinical Course

The usual complaint that brings the patient to seek medical advice is a growing lump in the soft tissues. This lump may have been silent for a period of twelve months' time without causing the patient any concern until rapid growth or possible pain draws the patient's attention to its existence.

In the early stage the only positive physical findings are those limited to the tumor itself. The size of the primary growth may vary from a walnut to an orange or even larger, depending upon the location and upon how early the subjective symptoms set in. On physical examination the tumor is usually firm, nodular, and freely movable, i.e., not fixed to either the skin or bony structures.

In the later stages there is dissemination to the regional lymph nodes, the lungs, and distant sites of muscle tissue. On inspection these distant metastases may appear similar to the primary growth. Ulceration of the skin over the tumor in subcutaneous sites may also be seen.

Pathology

Jönnson[5] credits Bard (1886) with being the first to ascribe a myogenic origin to rhabdomyosarcoma. Bard classified muscle tumors into two groups: the benign or adult muscle tumors, including leiomyomas and rhabdomyomas; and the malignant, including the myosarcomas and other embryonal types.

This classification encompasses the granular-cell myoblastomas, since the malignant tumors of this group are those exhibiting a marked degree of anaplasia.[6]

De and Tribedi,[1] Stout,[9] and Jönnson[5] emphasized the important fact that striation should not

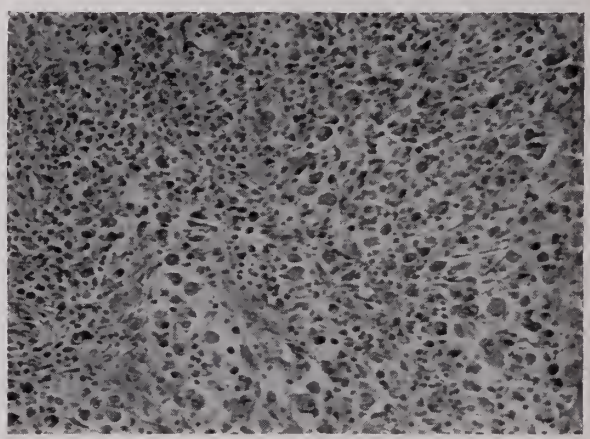


Fig. 1.—Photomicrograph of the primary growth showing the pattern of the cells. Some cells are small and lymphoid in type and others are large and rounded.

be considered as the criterion in the diagnosis of malignant rhabdomyoma, since these cells are anaplastic and undifferentiated, and, as a result, may not possess cross striation. The presence of the longitudinal myofibrils, however, are of paramount significance. In some cases it is possible to demonstrate cross striation, or a faint suggestion of striated forms, with Heidenhain's iron hematoxylin stain.

Microscopically, the tumor presents a very varied pattern—from cells resembling the primitive embryonal myoblast to cells of adult type with all possible variations and combinations. Different parts of the same tumor may show different patterns, and the metastases may be quite different from the primary tumor. These observations led De and Tribedi[1] to classify them according to morphology into tumors composed of:

1. Cells devoid of striation.
2. Non-striated cells and cells with commencing striation.
3. Round cells, spindle cells, and undifferentiated embryonic striated muscle cells.
4. Fully differentiated adult muscle cells.

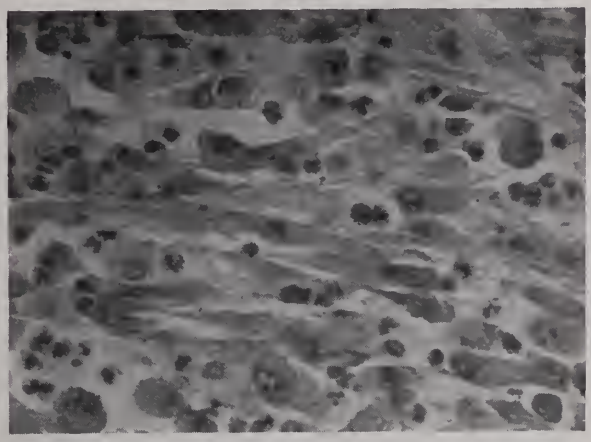


Fig. 2.—Another view of the primary growth showing ribbon, squash, and round cells. Note the longitudinal striations in some cells, and the granular cytoplasm of the rounded cells.

Characteristic areas of sections of rhabdomyosarcomas show, microscopically, strap or ribbon cells, squash cells, and giant cells.[1,4,5,9] The cytoplasm is strongly acidophilic and finely granular. The ribbon cells have one or more nuclei, which are often arranged in tandem and, in the case of the squash-

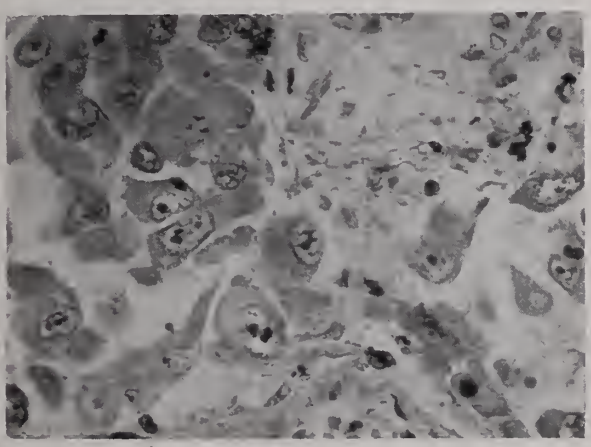


Fig. 3.—Pulmonary metastatic foci. Note the large vesicular nuclei with coarse chromatin and prominent nucleoli. The tumor cells show marked pleomorphism.

shaped cells, are seen at one end. Cross striations may be seen, but longitudinal myofibrils are more often found. The giant cells vary in structure and may contain one large lobulated nucleus or several irregularly shaped nuclei. The giant cells often give a clue to the origin of the tumor, as they frequently resemble regenerating muscle. Small rounded cells with a large nucleus are occasionally seen and are indicative of the degree of anaplasia, since these are primitive myoblasts.[1,4]

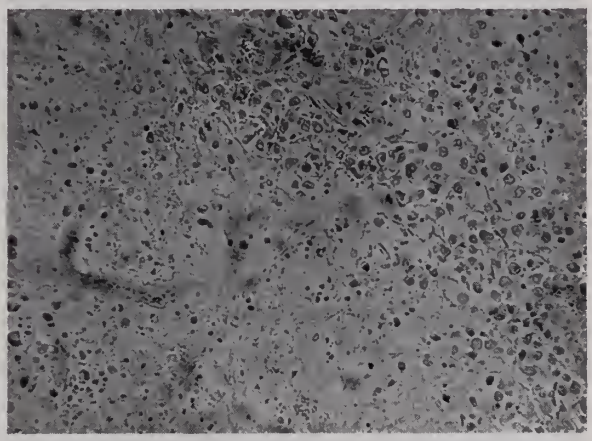


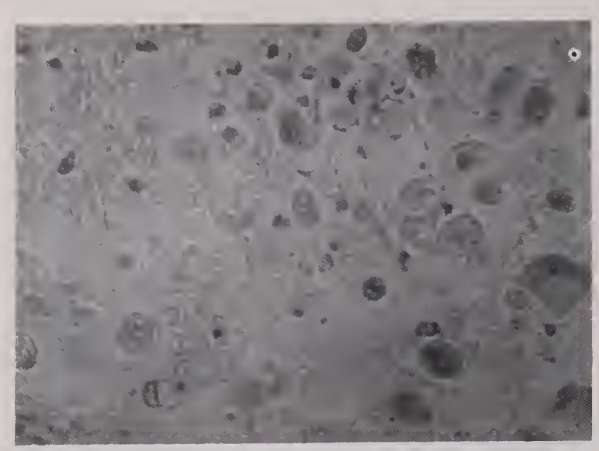
Fig. 4.—The results of irradiation therapy in the peri-rectal metastatic mass. Note the edema and destructive changes as well as the vascular damage.

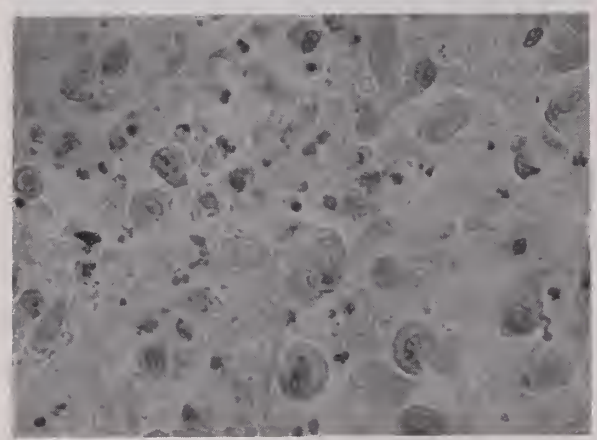
Houette (1929),[4] in discussing rhabdomyosarcomas of the bladder, gives a detailed description of the blastema cells of Masson. These cells, from which all the muscular elements of the tumor are derived, are about the size of large lymphocytes but have paler nuclei and delicate chromatin networks. In their evolution they undergo change. The cells elongate and become paler with the finely granular cytoplasm concentrated toward one pole of the nuclei. After further development the cytoplasm grows in the long axis of the cells and appears to fuse with the nuclear membrane on the sides of the nuclei. Later still, the cytoplasm becomes a ribbon or band, still retaining its granularity. Striations may or may not appear at any time. Longitudinal myofibrils usually appear in these band cells.

De and Tribedi[1] confirmed Masson's findings under different terminology. They described the development of the precursors of skeletal muscle tissue, the myoblasts, through the stages of round cells, elongated spindle cells, and finally striated cells. In their series of cases, tumors called rhabdomyoma sarcomatodes are composed of round cells, spindle cells, and embryonic muscle cells.

Stout,[9] who has undoubtedly the largest collection of cases and references, has suggested the following nomenclature for smooth muscle cell tumors: leiomyomas (benign) and leiomyosarcomas (ma-

lignant); and for striated muscle tumors: granular cell myoblastomas (benign to malignant), rhabdomyomas of heart muscle, rhabdomyosarcomas, and undifferentiated myosarcomas.





Figs. 5 and 6.—Show the irradiation effects on tumor cells of fig. 4. Note the ghost cells, edema, pyknosis, karyorrhexis, and karyolysis. There is swelling and shrinkage of the affected cells.

This classification is very practical, as it satisfies the pathologist and, at the same time, is of invaluable help to the treating physician.

Radiosensitivity

Many authors have failed to include a description of the specific effects of irradiation on rhabdomyosarcomas. Viets and Wittenborg[10] have described relief of pain in a metastatic lesion in the spine. Stout[9] reported reduction in size of a tumor following radium packs. Eisenberg's case[2] showed a marked regression of the metastatic nodules in the lungs following x-ray therapy. A follow-up of this case after three years revealed a downhill course and death of the patient four years after establishment of the diagnosis.

Jönnson[5] feels that rhabdomyosarcomas show insignificant sensitivity to x-ray or radium therapy.

The purpose of this paper is to show that irradiation therapy of the metastatic lesions of rhabdomyosarcoma results in a considerable amount of regressive and destructive changes in the neoplastic process without affecting a cure.

CASE REPORTS

Case 1. W. J., a colored male, aged 48, was first admitted to the hospital on March 29, 1938. He had noticed a small, firm, painless nodule on the posterior aspect of his left arm halfway between his shoulder and elbow. This had been present for almost a year's time. On admission the tumor was about three inches in diameter and was described as firm and nodular. On May 5, 1938, the tumor, which seemed to be encapsulated, was removed from the triceps brachii. A film of the chest at this time revealed no metastases. Following operation, he was given a total of 1500 r, measured in air, to the arm through one anterior and one posterior portal, using the following factors: 200 KV., a filter of 2 mm. Cu., 1 mm. Al., having a HVL of 1.7 mm. Cu., 25 MA., and a distance of 50 cms. Following x-ray therapy, the patient was discharged.

He was again admitted on September 18, 1940, with a complaint of chest pain. Roentgenogram revealed two nodules in the left lower lung, one 6 x 5 cms. and the other 5.5 x 3.5 cms. A total of 5200 r was given through three portals to the chest using the same factors given above. Re-examination of the chest showed the nodules less sharply defined. The patient was released from the hospital.

On February 14, 1941, the patient was admitted in an emaciated state with nodules in the skin over the occipital region and the chest. A roentgenogram showed new lung metastases with an increase in the size of the previous ones. There was also a nodule just above the operative scar on the left arm.

The patient died on February 23, 1941. Permission for autopsy was not granted.

Microscopic Diagnosis: Rhabdomyosarcoma. Cross striations were faintly shown with Heidenhain's iron hemotoxylin.

Case 2. A. J., an 18-year-old colored male was admitted to the hospital on June 11, 1940, because of a tumor on the posterior aspect of the inner, upper left thigh. This mass had been noticed six months previously after which it had increased in

size for six weeks before stopping. An indurated mass 6 x 8 cms. was present on examination, which mass was tender and freely movable. This tumor was removed on June 22, 1940, and three weeks later a small nodule was removed from just below the incision. Inguinal nodes were palpable. A film of the chest showed no evidence of metastases. During the next five weeks the patient received a total of 9000 r. The patient was released from the hospital.

On September 10, 1940, the patient was re-admitted to the hospital with a firm nodular mass 1 cm. in diameter located in the posterior left upper thigh with sloughing of the overlying skin. The chest again showed no lesions typical of metastatic new growth. The patient was discharged to his home where he died on October 7, 1940. Permission for postmortem examination was refused.

Microscopic Diagnosis: Rhabdomyosarcoma. Cross striations were faintly seen on sections stained with Heidenhain's iron hemotoxylin.

Case 3. C. S., a white male aged 54, was admitted to the hospital on September 8, 1942, with a complaint of a bluish fungating growth on his right temple 2 to 3 cms. in diameter. On a previous admission in July, 1942, this patient had sternal marrow studies, on which basis a diagnosis of chronic lymphatic leukemia had been made and the patient had received symptomatic x-ray therapy for this disorder from July 22, 1942, to August 1, 1942.

On September 16, 1942, the growth was removed and skin from the thigh was grafted to the operative site. Pre-operative x-ray therapy of 3000 r was given to the growth, using the following factors: 100 KV, 5 MA, 20 cms. distance and no filter. Shortly after operation the patient was discharged.

He was admitted again on July 3, 1943, with slight fever and with enlarged cervical nodes on the right side of the neck. The spleen and the liver were palpable. X-ray therapy of 1000 r was given to the cervical region in divided doses. The patient was discharged from the hospital in an improved condition on July 21, 1943, and attempts to follow this patient have met with failure.

Microscopic Diagnosis: 1. Rhabdomyosarcoma. Cross striations were faintly visible with iron hemotoxylin stain. 2. Chronic lymphatic leukemia.

Case 4. S. J., a white male aged 32, was first admitted to the hospital on June 14, 1948, with a granulating mass in the right axilla. In August of 1947 the patient had noticed an olive-sized mass, in the same location, which seemed to be increasing in size. An attempt at removal had been done elsewhere in April of 1948. The patient stated that a mole-like growth had been removed from his right arm in March of 1947.

The axillary mass measured 4 x 4 x 2 cms. and was protruding through the previous operative incision. It was described as reddish brown in color and lobulated. On June 18, 1948, the tumor was partially removed by cautery. Within a few days a walnut-sized mass was felt in the soft tissues near the right posterior ischium. A film of the chest did not reveal metastases.

Enzyme block therapy was begun on June 17, 1948. Nodules appeared in the soft tissues of the left arm, and the axillary mass by August 4, 1948, measured 10 x 10 cms.

A lemon-sized mass could be felt pushing into the rectal wall. To this latter lesion was given irradiation (x-ray) of 2650 r in divided doses, using the following factors: 190 KV, 20 MA, 50 cms. distance and a filter of ½ Cu. 1 Al., having a HVL of .9 mm. of Cu. This produced a regression in the size of the mass and a relief from the pain in this area.

The patient's general course was downhill, and he died on August 17, 1948. An autopsy was performed.

Microscopic Diagnosis: (Section from tumor removed on June 19, 1948) Rhabdomyosarcoma. Faint cross striations were demonstrated on sections, using the iron hemotoxylin stain of Heidenhain.

Autopsy: Metastases were found in the right anterior chest wall, the pleura of both lungs, the parenchyma of both lungs, retro-peritoneal lymph nodes, and in the peri-anal nodes.

A section was made of the peri-anal mass which had received x-ray irradiation and microscopically showed the following: There were few cells. Ghosts of cells where noted with degenerating nuclei. Some cells contained no nuclei while others showed pyknotic or karyorrhectic nuclei. The nuclei of some of the tumor cells showed vacuolization. The cytoplasm was swollen, pale, granular, and ill defined. There was edema present. The blood vessels were thrombosed and inflamed. The endothelial lining was destroyed in some areas.

SUMMARY

Four cases of rhabdomyosarcoma have been presented. Heidenhain's iron hemotoxylin stains were made in all cases to demonstrate cross striation in the tumor cells. All of the cases received x-ray therapy with definite regression of metastatic nodules in all but one case, though of short duration. Tumor destruction was demonstrated in one case by microscopic examination of one of the metastatic lesions. Two cases had a life duration of less than one year. One case lived thirty-four months, and the remaining case was alive with recurrence ten months after x-ray therapy.

The author wishes to express his appreciation to Dr. Philip Sahyoun of the Department of Pathology and to Miss Florence Herold for her preparation of the microscopic sections.

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Faulty Eating and Heartburn.

Heartburn, the burning discomfort associated with digestive upsets, is often caused by faulty eating habits and emotional disturbance and tension, say two Philadelphia doctors.

Writing in the January 29th issue of *The Journal of the American Medical Association,* Henry J. Tumen, M.D., and Edwin M. Cohn, M.D., of the Graduate School of Medicine, University of Pennsylvania, and the Jewish Hospital, point out that heartburn is not a symptom of ulcer or "overacidity" of the digestive system.

Nearly three fourths of the 46 patients treated for heartburn by the doctors found that the discomfort was worse during periods of emotional strain. Thirty-four of the group were substantially improved by a program of education in eating habits and discussion of emotional and personality problems.

Patients were advised to eat slowly and at properly spaced meals and to avoid the habits of getting most of the day's food at one large meal, drinking excessive fluids with meals, and eating foods that seemed to cause heartburn.

Although foods described by patients as causing the condition were mostly fats, sweets, and spices, the specific foods to be avoided vary with the individual, the doctors emphasize. Coffee, onions, cabbage, and chocolate were found to be outstanding examples of such specific foods.

Swallowing air in drinking carbonated beverages or in chewing gum may be a contributing factor to heartburn, it is suggested.

RADIUM THERAPY FOR LYMPHOID HYPERPLASIA OF THE NASOPHARYNX*

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Richmond, Virginia.

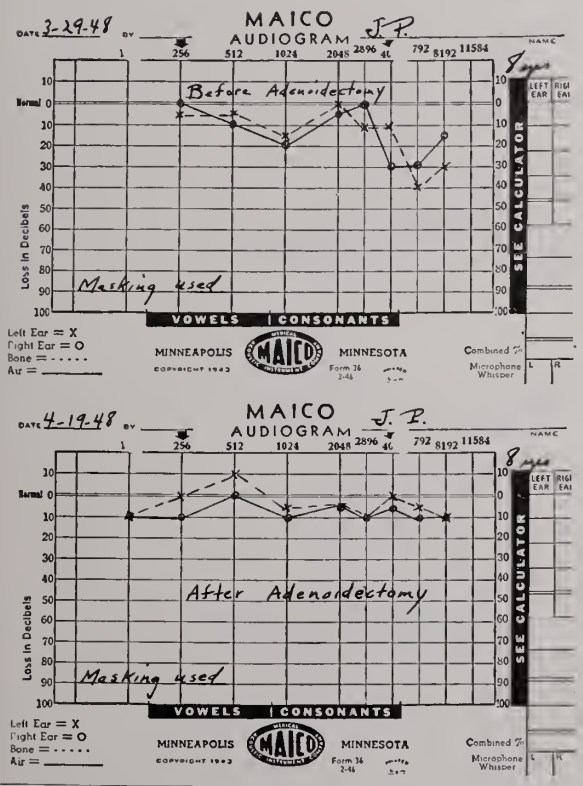
Heinicke in 1904[1] showed experimentally that lymphatic tissues are radiosensitive. A sensitive tissue as defined by Burnam[2] is one which is severely changed both macro- and microscopically by doses of irradiation which produce little or no change in surrounding tissues. Drs. Burnam and Crowe[3] took advantage of this radiosensitive quality of lymphoid tissue when determining the strength and dosage of their radon and radium applicators. The variable factor, the time of exposure, and intervals between treatments were calculated to atrophy the lymphoid tissue without injury to normal structure.

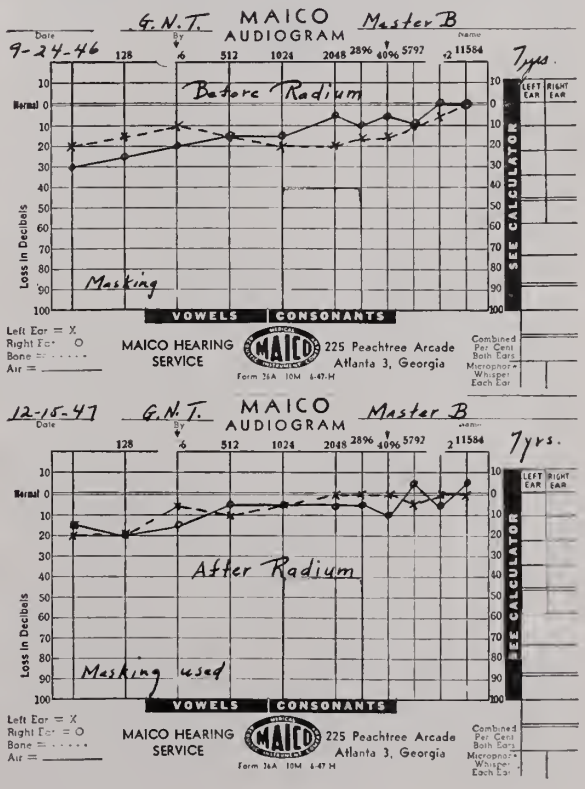
Removal of hyperplastic lymphoid tissue may be used to maintain or establish the patency of the eustachian tubes, to remove a focus of infection or a locus of potential infection.

Drs. S. J. Crowe and Guild[1,4,5,6] have greatly advanced our knowledge of deafness, a small part of which is represented by their study of eustachian tube obstruction due to lymphoid hyperplasia in the nasopharynx. This work was begun in 1925 and has developed many interesting contributions.

The patency of eustachian tubes, when disturbed by a partial or complete obstruction initially produces a loss of hearing found only in 8,000 to 11,000 d. v., the high tones. If obstruction is temporary, the hearing returns to normal. However, if the obstruction is frequently repeated or persists over a long period of time the hearing loss remains. The end result is an irreversible hearing loss. Pathologically there is initial swelling of the middle ear mucosa. The pars flaccida of the ear drum may now show retraction. The tympanic mucosa becomes myxomatous and thickened with retraction of the ear drum. If of long standing, the ear drum appears thickened. Myxomatous changes in the middle ear cavity are followed by fibrosis and interference with the movements of the ossicles.

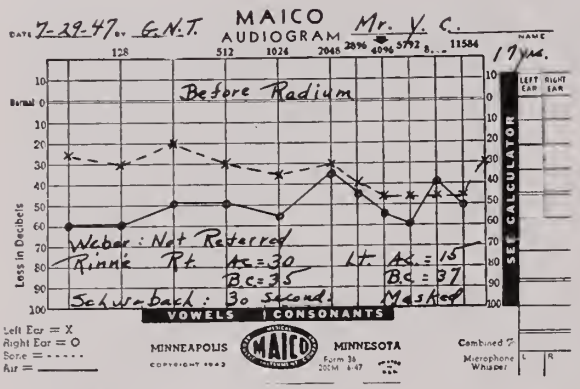
Apparently all types of defective hearing rep-

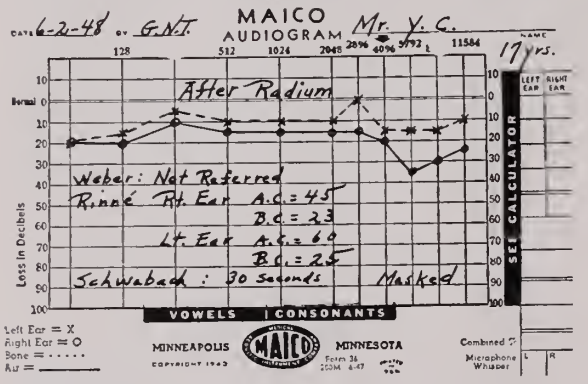




*Read before the Richmond Academy of Medicine, April 27, 1948.

resented by lesions of the middle and inner ear found in the adult are also found in children between eight and fourteen years of age. The hearing defect in children was thought to be the be-





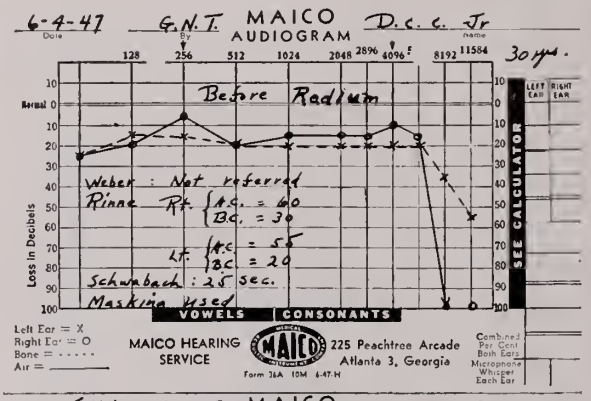
ginning of deafness in the adult and the treatment as in cancer should begin during the early stages in order to prevent or correct irreversible deafness. Patent eustachian tubes are essential for normal hearing. Obstructing adenoids should be removed. Even then, after a clean adenoidectomy a proportion of the children have a recurrence of hyperplastic tissue causing partial or complete obstruction to the eustachian tubes with hearing impairment. Lymphoid tissue is an integral part of the mucosa in this region and it is impossible to remove it completely. It is presumed that some stimuli poorly understood, perhaps infections, endocrine disturbances, or allergies are sufficient to stimulate dormant lymphoid tissue to hypertrophy.

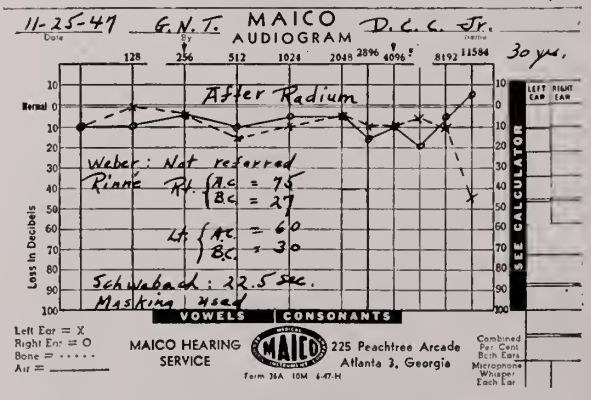
Aberrant tissue located around or in the eustachian tubes is often affected. In a group of 1,365 Baltimore school children who were thought by their parents and teachers to have good hearing, 36.3 per cent showed high tone losses. Approximately 18 per cent had some impairment for high tones as a result of lymphoid hyperplasia after adenoidectomy.

Lymphoid tissue is more susceptible to infection than other tissues which make up the structures of the nose and pharynx. The lymphatic tissue acts as a locus of potential infection in the nose and throat. When once chronically infected this tissue becomes a focus of infection. In both instances adjacent structures are frequently infected by continuity, the ears, the sinuses, and the larynx. Distressing symptoms relative to the pharynx which result from chronic pharyngitis are frequently complained of bitterly. The lymphoid tissue in the nasopharynx, follicles and lateral bands on the posterior walls are incriminated. Their removal gives relief. Diseased lymphoid tissue in the nasopharynx has been connected with allergy, with favorable reports by some observers—Crowe, Proctor, and Gay—following irradiation.

INSTRUMENTS

The instrument used[7] is a seven inch nasal applicator with a monel metal tubular chamber 15





mm. in length with an inside diameter of 1.6 mm., a wall thickness of 0.3 mm., and an outside diameter of 2.3 mm. The chamber contains 50 mm. of radium sulfate. The absorption capacity of the

filter is proportional to its density. Practically all the Beta rays are absorbed by the tissues of the nasopharynx. About 75 per cent of the Beta rays are absorbed in the first 3 mm. of tissue, but 6 to 7 per cent of the hard Beta rays are still detectable after passing through 20 mm. of tissue. In contrast, less than 10 per cent of Gamma rays are absorbed. The strength of the Gamma rays is inversely proportional to the square of the distance. Therefore, at 20 feet the Gamma rays would be one four hundredths of the strength as compared with the strength at one foot.

METHOD OF APPLICATION

A 10 per cent solution of cocaine is swabbed along the floor of the nose to the nasopharynx. The radium applicator is inserted through the inferior meatus into the nasopharynx and gently held against the lateral wall of the nasopharynx. The nasopharyngoscope is advantageous in placing the instrument so that the side of the cylinder will contact the tissue to be removed. There is very little emanation from the tip of the radium applicator; careful placing is advantageous. The present time of dosage[7] is twelve and one-half minutes on each side of the nasopharynx, at two week intervals, for three treatments. Then after three months the patient returns for a final examination. If the symptoms persist and lymphoid tissue remains, more therapy may be necessary. The nasopharyngoscope is an instrument which allows a direct view of the nasopharynx and of the eustachian tube mouths. It is indispensable in this work. The tuning fork has been supplemented by the audiometer, both of which are used for hearing cases.

RESULTS

Mikell[8] reported 163 cases of aerotitis treated in the Twelfth Air Force. These patients received three treatments and were followed for thirty days. 89 per cent were subjectively improved and 80 per cent showed a gross objective improvement. Hendricks and Lieberman[9] treated 778 men with hyperplastic lymphoid tissue. It was found that aerotitis after high altitude flights occurred twice as frequently as in a controlled group of 922 men with eustachian tube orifices clear of lymphoid tissue. After treatment the two groups became practically identical. 54 per cent showed subjective improvement. Boies[10] in 1946 reported 75 private cases of whom 73 per cent recovered normal hearing after treatment with the radium applicator. Proctor[11] in 1947 reported a series of cases with similar results. He also mentions improvement in asthmatic cases. My cases comprise 65 cases treated, with 32 completed. Objectively 80 to 85 per cent were improved and subjectively 70 to 75 per cent. Individuals varied greatly in their responses. My greatest disappointment was in the children treated. It is my belief that where a large amount of tissue is present adenoidectomy should precede the use of the radium applicator. Apparently the slow response in children was due to the selection of cases with too much tissue in the nasopharynx. However, all showed improvement and some showed dramatic improvement. No complications occurred.

CONCLUSIONS

1. The radium applicator is safe if used according to directions.
2. Where a large amount of lymphoid tissue is present, operation before the use of radium may be the method of choice.
3. Radium therapy is a useful method of removing hyperplastic lymphoid tissue.

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Overweight and Diseases.

Overweight is a serious menace to health because it appears to increase the incidence of many diseases, according to three Rochester, Minnesota, researchers.

Writing in the January 8th issue of *The Journal of the American Medical Association,* Clifford F. Gastineau, M.D., of the Mayo Foundation, and Edward H. Rynearson, M. D., and Alice Karslake Irmisch, M.S., of theMayo Clinic, say that between the ages of 45 and 50 years, 25 pounds of excess weight results in an increase of 25 per cent in mortality.

"Greater degrees of overweight are a correspondingly greater hazard to life and health," they point out. "Overweight has been found to be associated with an increased incidence of high blood pressure, diabetes, cancer, heart disease, kidney disease, hardening of the arteries, liver disease, and varicose veins."

Emotions, training and habit "exert a considerable influence" in determining whether people overeat or undereat, they say, adding:

"Investigations of the lean and fat by a number of psychiatrists have suggested a strikingly high incidence of psychologic aberrations. The apparently increased incidence of neuroses in association with obesity or leanness may be open to some question, since most such investigations have not included psychiatric studies of persons of normal weight for control purposes.

"Glandular disorders are rarely a cause of either pronounced obesity or leanness.

"It is difficult to hazard a guess whether inheritance or environment exerts the greater influence on eating habits. If mother prides herself on setting a good table, if dad eats heartily and with obvious enjoyment, if the household attitude and feeling is that good food in generous quantities is the end and purpose of life, it is not surprising that an entire family may become obese without the mediation of heredity. Imitation of elders and attitudes acquired in childhood may govern eating habits in later life."

In general, the best way to get rid of excess weight is to eat less, the researchers indicate. Several medicines which have been used for reducing accomplish little, and massage, local applications of heat, and exercise have no effect on local deposits of fat, they say.

Aureomycin for Nonbacterial Pneumonia.

Aureomycin, the new golden-colored antibiotic drug, is effective against pneumonia of a type which resists penicillin and sulfa drug therapy.

The cause of this disease, primary atypical nonbacterial pneumonia, is not known. Only during World War II was it differentiated from similar lung infections caused by specific viruses and rickettsiae.

Writing in the January 29th issue of *The Journal of the American Medical Association,* Emanuel B. Schoenbach, M.D., and Morton S. Bryer, M.D., from the Department of Preventive Medicine, Johns Hopkins University School of Medicine, Baltimore, report that they gave aureomycin by mouth to 13 patients with this type of pneumonia. Twelve of these patients were severely ill.

Two of the group were clear of fever in 12 hours, and in no case did the fever last more than 72 hours after the drug was given. All 13 patients recovered.

TRANSURETHRAL RESECTION AND THE NEUROGENIC BLADDER*

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Although it is more than three years since the end of World War II, the number of patients with spinal cord injuries dependent on suprapubic or urethral catheter drainage is still quite high. They present a problem to the medical profession as a whole and especially to the urologist, whose foremost purpose is to aid in developing a functioning bladder simulating normal micturition. The high mortality among these cases in 1914-18 was due largely to urosepsis.

The cord bladder passes through two stages: first, paralysis, and then a period of recovery. The first phase, also known as "spinal shock", may last from a few hours to several months. Nesbit recently demonstrated that the bladder in this stage retains its muscular tone but the afferent detrusor impulses are absent. The bladder, therefore, does not empty and overdistention results in an atonic, flaccid bladder. Indwelling urethral catheter or suprapubic drainage is used during this phase with the addition of tidal drainage when feasible.

The second stage, or period of recovery, is marked by hypertonicity with the appearance of incomplete, inefficient bladder contractions. For practical clinical purposes, an automatic functioning bladder then follows if the spinal lesion is above the level of the micturitional reflex centers. If the lesion involves the reflex centers themselves or the cauda equina, then an autonomous functioning bladder will develop.

The automatic or reflex bladder, in the majority of cases, has efficient contractions, with a capacity usually of 200 to 300 cc. emptying about every two to four hours. The detrusor muscle fibers are hypertrophied and as the fibers of the bladder neck are an extension from the detrusor muscle, one can expect to find the same hypertrophic changes present in the internal sphincter. In a large percentage of the cases the detrusor becomes powerful enough to expel the urine with only a small residual, but in the remaining cases the muscular internal ring becomes obstructive, resulting in a high residual urine. This obstructive element produces a marked trabeculation of the bladder wall with saccule formation. The residual urine present, with secondary infection results in further stimulation of the bladder musculature.

The autonomous bladder displays frequent inefficient contractions with a much smaller capacity, expelling urine about every 30 minutes to 1 hour. The detrusor is markedly hypertrophied and, as might be expected, the changes noted above are intensified with the more frequent occurrence of a residual urine, severe cystitis, bullous edema, and occasionally inflammatory papillomata.

Although there has been a loss of sensation there are several objective signs and symptoms of bladder neck obstruction, such as:

(1) Elevated residual urine.

(2) Extreme pyuria, due to severe cystitis.

(3) Stress incontinence, due to the high residual urine and fixation of the bladder neck. Any motion or straining, as sitting up, laughing, sneezing, results in an involuntary loss of urine.

(4) Difficulty in voiding. The patient must exert strong abdominal pressure in order to expel any amount of urine.

(5) The patient is unable to void spontaneously, although cystometric studies reveal a capable detrusor.

The experimental work of Denny-Brown and Robertson on the physiology of micturition suggested new concepts for the treatment of the cord bladder. In 1935, Braasch and Thompson first advocated resection of the hypertrophied vesical neck in neurogenic bladders, and at this time Emmett described a balance of power existing between opposite forces, namely, the detrusor for expelling the urine and the obstructive internal orifice resisting the expulsion of urine. Thus resection of the vesical neck weakened the obstruction, result-

*From the Urologic and Paraplegic Sections, Veterans Administration Hospital, Richmond, Virginia. Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

ing in a diminished residual urine. There is still a difference of opinion as to the presence of a true mechanical obstructing factor and the need for transurethral resection in these cases. Munro, Prather and others have rarely found it necessary. On the other hand, Thompson, Bumpus and Nourse performed transurethral resection of hypertrophic tissue on 79 service men with neurogenic bladders. Urologists at the other paraplegic centers of the VA have found it necessary to remove obstructing tissue in 154 cases out of a total of 1,659 patients with neurogenic bladders. Emmett, who has carried out resections in 65 civilian paraplegic cases, is of the opinion that many more are in need of the procedure. Before any operative intervention is undertaken cystometric studies of the detrusor function and contraction potential should be observed. If efficient emptying contractions are not present, the resection will not be of benefit.

The indications for transurethral resection have been:

(1) Persistent high residual (over 50 cc.).

(2) Cystometric recording of good detrusor function.

(3) Bladder neck obstruction or rigidity.

Occasionally on cystoscopy the internal sphincter does not appear to be unusually hypertrophied. This has been noticed in several cases where marked chronic infection with scarring has produced a fixed fibrous bladder neck.

The operative technique is patterned after the recommendation of Thompson, who suggested that tissue be resected from the entire circumference of the vesical neck, the resected portion extending distally to the verumontanum. Only a small amount of tissue need be removed in most cases and it is believed that the operation is more successfully performed in stages if extensive bleeding is encountered. It has been noted that bleeding is much less during a repeat resection and it is surprising at times to observe the considerable amount of resectable tissue left behind. When anesthesia has been necessary, sodium pentothal has been used. The average weight of the tissue removed at one resection has ranged from 1 to 6 gms. On pathological examination the usual findings are fibromuscular tissue surrounding tubuloalveolar glands with a moderate round cell infiltration in the fibrous tissue indicating chronic inflammation.

Postoperative complications have been:

(1) Delayed hemorrhage. This has occurred in 4 cases, or 7 per cent, and usually between the 5th and 14th day. One patient required secondary fulguration.

(2) Epididymitis. This has appeared in 5 cases, or 8.8 per cent, post-operatively. As 95 per cent of the patients are still young men and in spite of the doubtful sexual function, vasectomies have not been done as it is felt it would be detrimental to their morale. If this were done, it is probable that the occurrence of epididymitis might have been reduced. Furthermore, most every bladder operated upon is infected to some degree with aerobacter aerogenes, pseudomonas aeruginosa, E. coli, proteus, or other gram negative bacilli. This, too, of course, plays an important part in the incidence of epididymal involvement. It has been noticed that the paraplegic patients, either when undergoing major surgical procedure or when ill with infectious diseases as influenza, hepatitis, epididymitis, etc., may lose their bladder control or carry a high residual urine, or both.

Total cases—57

Number of Cord Lesions	Complete Transection	45	79%
	Partial Transection	12	21%
Type of Bladder	Automatic (Reflex)	50	87.7%
	Autonomous	7	12.3%
Results of Resections	Improved	49	86%
	Results not yet determined	8	14%
Number of Repeated Resections	Two resections	4	7%
	Three resections	3	5.3%
Complications	Late hemorrhage	4	7%
	Epididymitis	5	8.8%

There have been 280 admissions to the cord injury section of this hospital in two years, and 57 cases, or 20.4 per cent, have had bladder neck resections. Four have had two resections and three have had three. Fifty of the 57 cases had traumatic lesions of the spinal cord, and the remaining seven were due to other diseases of the cord. Of the 57 cases, 49 have shown marked improvement. The remaining eight cases still have an indefinite

status. One patient has developed extensive decubiti and remains on urethral catheter drainage; one refuses a second resection; four have improved slightly and may need a repeat resection; the remaining two have developed bilateral hydronephrosis and it was thought best to continue with catheter drainage. Twelve of the 57 cases had partial cord lesions, all of which were below the level of D-12 and showed varying degrees of bladder involvement. Of 154 transurethral resections performed in other Veterans Administration Hospitals, 124 cases, or 80.5 per cent, showed good results.

There is no desire to leave the impression that all neurogenic bladders require transurethral resections. As mentioned before, only 20 per cent of the cases at this hospital have had resections. Nor is there any adherence to the opinion that the use of tidal drainage alone will (in every case) result in the development of an automatic or autonomous bladder with a residual less than 50 cc. Resections should not be done until efficient detrusor contractions are present, as determined by repeated cystometric studies, along with definite obstruction, as indicated by a high residual urine. The percentage of resections in this series may seem too high, but it should be recalled that these patients are war casualties with long standing indwelling suprapubic or urethral catheters, and chronic infected bladders.

Many of the patients with obstructive necks have had recurrent attacks of pyelonephritis. Since transurethral resection there has been a definite reduction of these attacks. At the same time, reports show that there has been a diminution of the number of pus cells in the urine. In spite of all therapy, including antibiotic, chemotherapy, and acidulation, bacillary flora was still present in urinary cultures in most cases. Of the 57 cases, 10, or 18.8 per cent, had recurrent bladder calculi (egg shell type) prior to transurethal resection and only 3, or 5.3 per cent, have developed bladder stones since. Many of these patients have declared that they can void with less straining and that the stress incontinence has been reduced or is completely absent. Cystoscopic examination has in several cases shown a decrease in the degree of trabeculation. No recurrent hypertrophy of the neck has been noted in patients inspected twenty months after resection. Several bladders, both autonomous and automatic, have developed an increased capacity due to the subsiding cystitis. Several have been able to sleep through the night without voiding. As a secondary aid after transurethral resection, several patients with high lesions producing complete paralysis of the lower abdominal muscles have been able to reduce their residual urine by wearing an abdominal belt while voiding. The intra-abdominal pressure transmitted to the bladder in these cases aids the detrusor in expressing urine.

SUMMARY

(1) Of 280 neurogenic bladders, 57, or 20.4 per cent, had transurethral resection for hypertrophy of the internal sphincter.

(2) Cystometric records of efficient detrusor contraction with inability to void spontaneously or with a high urinary residual were prerequisites for this procedure.

(3) Automatic and autonomous bladders showed improvement. A residual of 50 cc. or less was considered improved. Eight cases are still under observation.

(4) There was a definite decrease in the incidence of pyelonephritis.

(5) Bladder capacity was increased in many cases. A decrease in the formation of bladder calculi and bladder infection was noted. However, complete eradication of infection was unsuccessful.

(6) Complications were late hemorrhage and epididymitis. Hemorrhage may be lessened by multiple operations. Epididymitis might be further eliminated if vasectomy were permitted. There were no fatalities.

(7) The procedure aided these paraplegics in establishing another step toward complete rehabilitation.

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Pulmonary Tuberculosis.

A new apparatus called an immobilizing lung chamber is producing encouraging results in patients with advanced tuberculosis of both lungs, according to four New York physicians.

The physicians—Alvan L. Barach, Chesmore Eastlake, Jr., James H. Cullen, and George Foster Herben, of the Department of Medicine, College of Physicians and Surgeons, Columbia University and the Presbyterian Hospital, New York, and the House of Rest, Yonkers, N. Y.—make their report in the March 26th issue of *The Journal of the American Medical Association.*

The immobilizing lung chamber was developed by Dr. Barach. It is not particularly similar to the "iron lung." A patient in an iron lung is made to breathe artificially and his head is outside the apparatus. The patient's head remains inside the immobilizing lung chamber and the lungs are supplied with a normal amount of air without discernible movement of the chest or diaphragm, the doctors say.

The chamber provides a degree of rest for the lungs and upper portion of the respiratory system not obtainable by bed rest and other procedures used in treatment of pulmonary tuberculosis, such as pneumothorax, collapse of the lung by introducing air into the cavity surrounding it, or thoracoplasty, surgery to collapse the chest against the lung.

DIAGNOSIS IN DERMATOLOGY*

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Diagnosis is difficult in many disorders of the skin, and the most experienced observer is often at a loss to interpret a complex eruption.

Difficulty is seldom encountered with the more familiar entities such as psoriasis, pityriasis rosea, or tinea versicolor. Although an occasional case may be confusing, these and similar conditions, within certain limits, usually conform to a characteristic pattern, and follow a course which is often predictable.

In many cases, however, the origin of the presenting eruption is obscure, and is frequently further confused by excoriations, crusts, pustules, and the damaging or camouflaging effects of injudicious self-treatment.

The factors which produce these puzzling eruptions are often numerous and diverse; and for this reason, it is necessary to investigate the many events, forces, and circumstances which may be related to the cause.

The patient's family history is important. Is there a family background of eczema, asthma, or hay fever? Such a history may indicate an atopic component of the dermatosis. An inquiry into such familial disorders as diabetes, tuberculosis, and when indicated, nervous and mental disease, is often helpful.

The past history may reveal previous skin disorders, and various habits, traits, and experiences which may influence the development of cutaneous disease.

In a consideration of the presenting eruption, the mode of onset, spread, and apparent excitants should be noted. It is necessary to know the patient's occupation, because of the prominent part played by industrial irritants in the production of dermatitis. Dietary habits may be of nutritional or allergenic significance.

It is of utmost importance to obtain a history of previous dermatological treatment. This is particularly true with regard to X-ray therapy, due to the fact that some patients previously treated with X-ray are close to the maximum dose tolerated by the skin. It is also desirable to know whether such sensitizing substances as tar, mercury, sulfur, local sulfonamides, and penicillin, and the numerous proprietaries have been applied, since they frequently aggravate or perpetuate the condition for which they were used.

A history of ingestion of drugs will sometimes provide the key to the diagnosis. The habit of self-medication is widespread. Patent medicines containing bromides, iodides, and phenolphthalein are sold everywhere, and consumed in unbelievable quantities. Barbiturates, sulfonamides, penicillin, and streptomycin are responsible for a number of cutaneous reactions incident to their therapeutic use.

Often omitted is inquiry into possible contact factors. Almost any substance is capable of producing a skin eruption in an appropriately sensitized person. Localization of the eruption will often suggest a line of inquiry. Cosmetics, occupational irritants, and plants, to mention but a few, are frequent offenders. The local use of sulfonamides, penicillin, streptomycin, and the numerous cutaneous anesthetic agents has been responsible for complicating, aggravating, and prolonging many simple dermatoses, which would ordinarily respond to less allergenic medicaments.

Examination of the skin and mucous membranes must be complete if important signs are not to be missed. Careful study of parts of the body at a distance from the site of the manifest eruption will frequently disclose important diagnostic data.

For example, the scalp should be searched carefully for parasites which are often overlooked when there is a dermatitis in the adjacent areas of the neck and ears. Infection due to excoriation may be the sole cause of the eruption. Furuncles, the atrophic patches of lupus erythematosus, epitheliomas, and areas of alopecia are often hidden by the hair.

The mucous membranes of the mouth and genitalia may give valuable evidence in diagnosis, since it is here that the mucous patches of syphilis, or the lesions of purpura, the lymphoblastomas, and lichen planus may be discovered.

*From an address given before the Sullivan-Johnson County Medical Society, March 3, 1948, Bristol, Virginia-Tennessee

Examination of the genitalia is often omitted. The chancre beneath an unretracted prepuce will not be detected. Definitive lesions of scabies, psoriasis, and lichen planus may occur on the penis and nowhere else.

Fungus infections of the inguinal region and feet are seldom sought for. Yet, the sole cause of a wide-spread erythema, or eczema of the hands, may be related to this type of eruption.

Structures adjacent to the skin, the lymph nodes, and bones may yield signs consistent with syphilis, sarcoidosis, and the lymphoblastomas.

Examination would not be complete without a psychologic appraisal. While there is disagreement as to what part the emotions play in the causation of diseases of the skin, few will deny that emotion exerts a powerful modifying effect. One might give as an example the aggravation of a fungus infection of the feet through hyperhidrosis, due to psychogenic causes.

It must be pointed out, however, that the profound emotional disturbances found so often in the dermatological patient are a reaction to the illness. Few persons can bear with equanimity the conspicuous disfigurement of a cutaneous eruption which is often considered infectious by the patient and his associates, and in which any unfavorable trend is readily apparent.

In some eruptions of obscure origin, extensive studies are necessary. Biopsies are needed in selected cases. Patch and intradermal tests are often of value, especially as confirmatory measures; but it must be emphasized that *such procedures are not a substitute for a differential diagnosis.* Careful consideration of all findings in these cases, including a general physical examination, laboratory examination of the urine and peripheral blood, and indicated X-ray studies, will enable the clinician to reconstruct the pathologic processes leading to the production of a skin disorder.

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Treatments for Annual Hair Fall.

Bald and balding American men are spending millions of dollars annually for futile hair-saving and dandruff-curing treatments, says a report of the American Medical Association Committee on Cosmetics in the March 26th issue of *The Journal of the American Medical Association.*

Ineffective "hair tonics" sold at drug and department stores and remedies sold by mail order also add up to gratifying sales. Neither massage, mechanical devices, "tonics," ultra-violet light, hormones, vitamins, nor any other treatment will regenerate hair lost in ordinary baldness of older men or in premature baldness of young men, the committee emphasizes.

Although self-designated "hair and scalp specialists" or "trichologists" use high-sounding terms that connote scientific background and training, they are not physicians, and so far as can be determined, have no qualifications other than "a full head of hair, a business brain, and an appetite for easy money." "Before and after" pictures may be those of persons whose hair has fallen out after prolonged illnesses, severe nervous shocks, or skin diseases, and grown back naturally rather than because of any external application.

"Hair tonics" simply groom the hair, the committee says. Most of these products are simple mixtures of well known drugs, and the history of these chemicals indicates that they are ineffective in growing or maintaining hair or in curing dandruff. In rare instances, continued massage may produce a fine, colorless, fuzzy down similar to that seen on the heads of some newborn babies. This fuzz cannot be considered either in length or appearance to be a real growth of hair or a precursor. Frequently, after reaching a length of about half an inch, the fuzz drops off and is not replaced.

CAESAREAN SECTION
A Report of Six Hundred Cases*

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Six hundred caesarean sections were done by 24 different operators at the Medical College of Virginia Hospitals during a period of ten years, 1936-1945 inclusive. The incidence of caesarean section was a little higher for the first five years of this period than for the last five years, 5.4% and 4.3% respectively. For the entire ten year period the incidence was 4.6%.

TABLE 1.—NUMBER OF CASES, PRIVATE AND WARD

	1ST 5 YEARS	2ND 5 YEARS	TOTAL
Private	47	191	238 or 39.7%
Ward	168	194	362 or 60.3%

The increase in private caesarean sections shown in Table 1 can be explained by the marked increase in all private patients during the war years.

Fifty-five per cent of the cases reported were white and forty-five per cent were colored. The average age for the series was 27 years.

Table 2 shows the incidence of the various types of operations used.

TABLE 2

	1ST 5 YEARS	2ND 5 YEARS	TOTAL
Classical	145	232	377
Low Flap			
Longitudinal Incision	37	104	141
Transverse Incision	2	11	13
Section-Hysterectomy	27	23	50
Extraperitoneal (Waters Type)		8	8

The incidence of low flap type of section was definitely increased during the second period, the longitudinal incision being favored. The section-hysterectomy cases were badly neglected ones, of course, in most instances. A few were done to control hemorrhage or to remove large or degenerating fibroids.

TABLE 3.—INDICATION FOR SECTION

Disproportion	218
Repeat Section	121
Placenta Previa	61
Premature Separation of Placenta	25
Toxemia (acute and chronic)	40
Uterine Inertia	26
Previous Vaginal or Cervical Plastic Operation	12
Genital Anomalies	5
Disproportion with Breech	39
Transverse Presentation	5
Face Presentation	3
Brow Presentation	1
Cord Prolapsed	5
Foetal Distress	4
Medical Indications	28
Fibroid Tumors	4
Other Indications	3
TOTAL	600

It is interesting to note that over half of the sections were done for disproportion or for repeat section. Fourteen per cent were done because of hemorrhage.

Caesarean section was never done because of eclampsia. Five caesarean sections were done on patients with eclampsia because of other obstetrical indications.

Patients who had been delivered by caesarean section or abdominal hysterotomy with previous pregnancies were delivered of succeeding pregnancies by elective caesarean section.

Repeat section was given as indication for section in 121 cases out of a total of 132 cases who had had a previous section. Some emergent condition such as hemorrhage was given as the indication in the other 11 cases.

One case was having her fourth caesarean section, seven cases their third and the remaining 124 cases their second caesarean section.

In the 132 cases having at least one previous section the operator's note commented on the uterine scar in 44 cases. There were three complete ruptures, three partial ruptures and ten in which a weak or thin scar was described.

In most of the cases of rupture of previous section scar the rupture occurred spontaneously during the last two weeks of pregnancy, before the

*From the Department of Obstetrics, Medical College of Virginia Hospitals.

Presented before the Virginia Baptist Hospital staff meeting, at Lynchburg, Va., April, 1948.

I wish to thank Drs. Winn, Ware and Schelin, of the Department of Obstetrics, Medical College of Virginia, for advice in the preparation of this paper.

†Dr. Pearce is now at the University of Virginia.

onset of labor. The clinical picture of partial rupture was clear cut and not difficult to recognize if looked for. The patient usually described fairly constant aching and burning pain in the lower abdomen, rather than rhythmic labor pains. The uterus was found to be irritable, a little tense and tender, particularly along the old scar. Frequently a prominence could be palpated over the site of rupture if the rupture was partial. There was no evidence of shock. When the rupture was complete with baby in the abdominal cavity, of course the picture was entirely different. In all cases of partial rupture it was necessary to only debride the old scar after delivery of the baby and close the uterus in the usual manner.

Heart disease was indication for section in 2.7% of cases in the first period, and 0.78% of cases in the second period.

Of the 218 cases operated upon because of cephalopelvic disproportion, x-ray pelvimetry was used as an aid in diagnosis in 37.6%.

TABLE 4.—CHOICE OF ANESTHESIA

	1ST 5 YEARS	2ND 5 YEARS
Spinal Anesthesia	65.6%	58.9%
Nitrous Oxide, Oxygen and Ether	30.7%	39.2%

Spinal anesthesia has been the choice anesthetic because the uterus contracts better, reducing blood loss, and the baby is more easily resuscitated. Novocaine crystals dissolved in spinal fluid in doses of 100 to 150 mgms. is used. There is tendency now to use the smaller dose or, even better, continuous spinal anesthesia.

Spinal anesthesia is never used in patients with excessive blood loss or in whom blood loss is anticipated. Other contraindications to spinal anesthesia in general would, of course, also apply to cases of caesarean section. Spinal anesthesia is particularly helpful in cases of respiratory infection. It is favored in toxemias and in some cardiacs.

Preoperative sedation is usually with barbiturates, most often nembutal, which was used in 497 cases. If the baby is viable, opiates are not given, as a rule, until after delivery of the baby.

Table 5 outlines morbidity per cent for the two five year periods.*

*Morbidity is assigned cases that have elevated temperature to 100.4 degrees F. or higher on any two consecutive days beginning 24 hours post-operative and before the 11th day post-operative.

TABLE 5.

	1ST 5 YEARS	2ND 5 YEARS
Classical	42.06%	28.4%
Low Flap (Longitudinal and Transverse Incision)	69.2%	40.8%
Section-Hysterectomy	66.6%	69.6%
Extraperitoneal (Waters Type)	-----	-----

Table 6 outlines the mortality rate for the two five year periods.**

TABLE 6.

	1ST 5 YEARS		2ND 5 YEARS	
	No. DEATHS	PER CENT	No. DEATHS	PER CENT
Classical	9	6.2	3	1.37
Low Flap	2	5.1	0	---
Section-Hysterectomy	1	3.7	4	17.4
Extraperitoneal	0	--	0	---

The marked improvement in prenatal care, more experienced house staff and improved facilities all played a part in lowering the morbidity and mortality rates. One-half the cases received prenatal care during the first five year period and three-fourths the cases received prenatal care during the second five year period. The addition of better chemotherapy to our armamentarium was undoubtedly responsible for some of the improvement in the morbidity and mortality rates.

Table 7 shows morbidity and mortality higher in the colored ward patients.

TABLE 7.

	MORBIDITY	MORTALITY
Private	20.1%	0.0
Ward	50.8%	6.07%
White	25.6%	0.91%
Colored	54.5%	6.95%
TOTAL	38.8%	3.66%
TOTAL CORRECTED		3.16%

The lack of adequate prenatal care played an important part in the high morbidity and mortality in the colored ward patients. Many of these patients were referred to the hospital in poor condition after long and mismanaged labors in the home, frequently with only a midwife in attendance until just before hospitalization. The advantage of good prenatal care with early preparation for delivery is reflected in the low morbidity and mortality in the private group. Both the ward and the private pa-

**Three spinal anesthesia deaths occurring before incision was made not included in this table.

tients were attended by essentially the same attending and house staff after admission to the hospital.

TABLE 8.—CAUSE OF MATERNAL DEATHS

	TOTAL NO.	AUTOPSY
Sepsis	7	5
Anuria	3	2
Cerebral Accident	1	-
Circulatory Collapse	1	-
Pulmonary Edema	1	-
Hemorrhage, Acute	3	-
Congestive Heart Failure	1	-
Evisceration	1	-
Spinal Anesthesia	4	2
TOTAL	22	9

Sepsis was the greatest cause of death, as would be expected in such a group. In many cases the cause for the morbidity was never accurately determined. Table 9 shows cause for morbidity in those diagnosed, with urinary tract infection as the most frequent cause for morbidity.

TABLE 9.—CAUSE OF MORBIDITY

	NO. OF CASES
Urinary Tract Infection	44
Wound Infection	31
Pulmonary Infection	10
Endometritis	8
Peritonitis	7
Thrombophlebitis	4
Other Causes	4

Table 10 shows relation of hemoglobin to morbidity.

TABLE 10.

HEMOGLOBIN	NO. CASES	MORBIDITY
Over 70% Sahli	332	36.4%
60 to 70%	157	45.2%
Less than 60%	85	57.6%

The low hemoglobins are seen most often in the colored ward patients who show the highest morbidity and mortality rates.

The over-all incidence of transfusion was 23%. It was 14% for private cases and 28% for the ward cases, 19% for the white and 28% for the colored.

Table 11 shows relation between morbidity and vaginal examinations.

TABLE 11.

NO. OF EXAMINATIONS	MORBIDITY
One Examination	47.2%
Two Examinations	51.8%
Three Examinations	66.6%
Over Three Examinations	100.0%

Table 12 indicates that morbidity increases with increased dilatation of the cervix.

TABLE 12.

DILATATION OF THE CERVIX	MORBIDITY
3-5 cm. Dilated	46.5%
5-9 cm. Dilated	57.1%
Completely Dilated	80.0%

Of the series 35% of cases were operated on after onset of labor. If vaginal examinations are done with sterile precautions and due care is taken in managing the labor, this alone should not increase the morbidity. It is very likely that the duration of labor associated with increased number of vaginal examinations and advanced dilatation of the cervix is really responsible for the increase in morbidity. The information derived from vaginal examinations when indicated is most helpful in managing a difficult labor properly. This should more than offset any increased danger of infection caused by the examination.

Six of the cases in this series had an attempt at vaginal delivery with forceps before section was done. Two of the six died post-operative from sepsis and the other four were morbid.

Uterine packing was done in 118, or 19.6%, of the cases because of excessive bleeding. This procedure caused a slight increase in morbidity but probably not as much as increased blood loss would have caused.

Sterilization at the time of section was done in 37.3% of cases. The morbidity for these cases was 40%, just slightly more than the over-all morbidity rate of 38.8%. The Pomroy or similar technique of sterilization is used.

Cases were classified elective section if they were beyond 38 weeks gestation, no labor, membranes intact, no indication of infection, toxemia nor hemorrhage. There were 198 cases that met with this classification, and 18.1% were morbid and mortality zero.

For all cases who had had one or more previous sections (132 cases) the morbidity was 28.7% and the mortality 2.3%.

A study of the fetal statistics reveals six sets of twins, a total of 606 babies. In this group there were 32 antepartum deaths, 11 intrapartum deaths and 25 neonatal deaths, a total of 68 babies lost, or a gross fetal mortality of 11.22%. Related cause of death or poor condition of the baby was listed as follows: hemorrhage in the mother 52, prolonged

labor 19, toxemia 17, others 35.

Seventy-five per cent of the babies had attained a period of gestation of 38 weeks or more by menses. Eighty-five per cent weighed 2500 grams or more at birth. One and three-tenths per cent weighed less than 1500 grams at birth.

TABLE 13.—RELATION OF ANESTHESIA TO FETAL MORBIDITY AND MORTALITY

CONDITION OF FETUS	GENERAL ANESTHESIA	SPINAL ANESTHESIA
Condition Good	64.4%	83.7%
Resuscitation Required	15.5%	7.0%
Neonatal Death	5.8%	3.4%
Stillborn	14.2%	3.1%

The anesthesia may have played little or no part in most of the stillborn and neonatal deaths. It is interesting to note, however, the increase in percentage of babies in good condition and the decrease in necessity for resuscitation for those babies whose mothers received spinal instead of general anesthesia. We do believe that these figures represent facts and are not prejudiced.

DISCUSSION AND COMMENT

Six hundred caesarean sections at the Medical College of Virginia Hospitals over a period of ten years have been reported. The incidence of section, the indications and morbidity and mortality rates compare favorably with comparable services in other clinics.

The most frequent indication for section was cephalo-pelvic disproportion. Repeat section was the second most frequent indication.

Morbidity and mortality were markedly reduced during the second five years of the series as compared to the first five years. Some reasons for this are outlined.

Attempt is made to show some correlation between morbidity and the number of vaginal examinations, dilatation of the cervix, length of labor, uterine packing, hemoglobin level, repeat section, elective section and sterilization.

Statistics indicated that babies were in better condition at birth and required less resuscitation with spinal than with general anesthesia.

Allied Arts Building.

Recovery from Tuberculosis Credited to Streptomycin.

The dramatic recovery of a 22 year old girl treated with streptomycin for active tuberculosis of the lungs has led a Berkeley, Calif., doctor to question the generally accepted belief that the drug should be reserved for tuberculosis cases that do not respond well to ordinary treatment. Marshall C. Cheney, M.D., says that the girl's condition had been considered incurable. She was extremely emaciated and also had Addison's disease, a condition caused by disease of the suprarenal glands, located at the upper end of each kidney. She was treated three months with streptomycin at her home and showed no toxic symptoms even on full dosage of the drug, possibly because she was given large doses of vitamin B.

"It was evident that a cure had been accomplished," Dr. Cheney points out. She gained 34 pounds and became active and in good health.

"Reading over the various reports on all types of tuberculosis treated with streptomycin, one notes the extremely cautious conclusions," he comments. "Admitting that all patients do not respond favorably to streptomycin and that some have had toxic damage (at least from the old high dosage treatment without protection of the nerve structures by thiamine), the unbelievable improvement in this patient makes it fair to question the generally accepted conclusion of tuberculosis specialists that streptomycin should be reserved for tuberculosis that is not responding well to the old regimen.

"Obviously, this patient could have been saved over a year of sanatorium care and from approaching death had streptomycin been administered at the outset. Should not every case of active tuberculosis have a trial of streptomycin therapy first?" (*J.A.M.A.* April 16, 1949.)

THE CANCER COMMITTEE

Medical Society of Virginia

Case Report

A white male child, born January 2, 1946, developed normally and was in good health until December 20, 1948, when he began complaining of abdominal pain. There was no diarrhea but the boy vomited a good part of his meals. The abdomen was distended and tense. After two weeks of this, he was taken to a physician who said he had "gas on the stomach" and prescribed accordingly. The child was brought back to him one week later and again two weeks later because of failure of improvement. In fact, the abdomen grew appreciably larger and fuller. On the last visit, the patient was seen in consultation by a second physician who at once discovered a huge mass filling the entire left half of the abdomen. Intravenous urography revealed a normal right kidney, a nonfunctioning left kidney. Referred to a Tumor Clinic, the boy received preoperative radiation with good recession of the mass, followed by a left nephrectomy. A large Wilm's tumor was found.

COMMENT: 1. Cancer is a relatively infrequent occurrence, but one of the major causes of death in children under 15,—that is, very few cases are recognized early enough to obtain a cure.

2. In the above instance, institution of proper treatment was delayed three weeks by the failure of the first physician to palpate the abdominal tumor. Because cancer in children almost invariably progresses very rapidly, time is of the essence. A loss of three weeks may alter the outcome completely.

3. Prior to diagnosis and treatment, every patient should receive a complete physical examination. Even casual palpation of the abdomen would have discovered this child's mass.

4. Only the physician who thinks of cancer and looks for it will discover it in time to hope for a cure.

In connection with the last statement, it is instructive to compare statistics obtained from surveys of large series of cancer case histories. The figures given below* show who was responsible for delay between the appearance of symptoms and the establishment of the diagnosis of cancer.

	1923-38	1946
Patient alone	44.3%	32.0%
Patient and physician	18.0%	10.8%
Physician alone	17.0%	27.8%
No delay	20.7%	29.4%

The improvement in the more recent figures is due to better patient performance, *not* to better physician performance.

*Statistical Research Department, American Cancer Society.

Floral Eponym
Zinnia

ZINN, JOHANN GOTTFRIED, 1727-1759

ZINN was born at Schwabach. He graduated M.D. at Göttingen in 1749 and pursued his studies in anatomy and botany at Berlin. He was Professor of Medicine in Göttingen where he died in 1759. He is remembered in medicine for his work on the anatomy of the human eye and by botanists for the Zinnias.

Zinnia is a genus of about 15 species of annual or perennial herbs chiefly found in Mexico, Colorado, Texas and Chile.

PUBLIC HEALTH

L. J. ROPER, M.D.,

State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for March 1949 as compared with the same month in 1948, and for the period of January through March 1949 compared with the same period in 1948, is as follows:

	Mar. 1949	Mar. 1948	Jan.-Mar. 1949	Jan.-Mar. 1948
Typhoid and paratyphoid	7	11	14	30
Diarrhea and Dysentery	187	322	884	918
Measles	3,986	887	9,921	2,058
Scarlet Fever	73	111	239	341
Diphtheria	9	22	42	71
Poliomyelitis	0	1	7	4
Meningitis	10	8	29	26
Undulant	5	7	14	21
Rocky Mountain spotted fever	0	0	0	0
Tularemia	2	1	7	19

THE POLIOMYELITIS PROSPECT FOR 1949 IN VIRGINIA

Although the long-term curve of the annual incidence of poliomyelitis in Virginia since 1910 is no certain indication in forecasting epidemics, it may be significant that since 1916 there has been a certain regularity in the occurrence of high incidence years. The following table lists the number of cases reported for the last 38 years:

1911	1912	1913	1914	1915	*1916*	1917	1918	1919
387	237	307	167	267	*345*	318	123	170
1920	1921	1922	*1923*	1924	1925	1926	1927	1928
122	141	76	*148*	127	94	67	71	97
1929	1930	1931	1932	1933	1934	*1935*	1936	1937
325	119	68	63	44	85	*685*	68	68
1938	1939	*1940*	1941	1942	1943	*1944*	1945	1946
59	46	*241*	155	43	61	*756*	335	143
1947	*1948*							
173	*568*							

Upon reference to the above table it is evident that from 1911, a peak year, to 1916, another peak year, the yearly fluctuation in number of reported cases of poliomyelitis was not marked. From 1916-17 on, however, there has been a significant increase in incidence every fifth or sixth year, and since 1940 every fourth year. The high incidence years were 1911, 1916, 1923, 1929, 1935, 1940, 1944, and last year, 1948. It also appears in analysis of the years intervening that there has been an apparent hold-over increase the year following the high incidence year. If, therefore, the incidence of poliomyelitis follows the pattern of former years, we may expect a higher than average incidence in 1949, as occurred in other years following high peak years, namely, 1917, 1924, 1930, 1941, and 1945. 1936 was an exception.

In any prognostication of this nature, we must admit at the outset our lack of precise knowledge of the epidemiology of poliomyelitis. Unanswered still are the questions: Why is the attack rate higher in males than females, in whites than in negroes? Which is the more important portal of entry, the oropharyngeal or the gastro intestinal? Why are the majority of persons in contact with the virus apparently unaffected, while the minority suffer from clinical disease? What happens in the temporate zones in summer to increase the dissemination of virus?

One observation seems warranted—the high incidence years recurring with a certain pattern of regularity, and the succeeding hold-over years, would indicate that epidemics of poliomyelitis, like measles, occur when a sufficient number of non-immune susceptibles accumulates.

The control of poliomyelitis depends, in our opinion, upon the production of an effective vaccine. When this is accomplished poliomyelitis, like smallpox and diphtheria, will assume the role of a preventable disease.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Senate Bill #5 Analyzed by Dr. Lawrence.

Dr. Joseph S. Lawrence, Director, Washington Office of the American Medical Association, has made the following comments on Senate Bill No. 5. It is identical with two House Bills, H.R. 345—Celler and H.R. 783—Dingell. They are all exact copies of last year's bill, S.1320. Therefore, the Comments that we offered in our Bulletin No. 25 of December 15 apply and will not be repeated. Briefly, S.5 can be analyzed in the following manner:

Administration of the law would be divided into groups on the national, state, local, and rural levels. On the *national level* would be the Federal Security Administrator with the assistance of a National Health Insurance Board of five members (page 39) and a National Advisory Medical Policy Council of sixteen members (page 42).

The *states* would be required to submit to the Board for its approval plans of operation which would indicate what state agency would have the responsibility of administering the plan (page 32). It would have the assistance of an administrative committee or an advisory committee (page 33).

The National Board would take over state functions if a state board failed to submit a plan or have a plan approved (page 36). The National Board would also withhold funds under certain conditions (page 37).

Continuing the decentralization of administration, there would be *local health areas* (page 26) with an administrative officer appointed by the state agency (page 31) assisted by an administrative committee of 8-16 members, or an advisory committee of 8-16 members. There would also be professional committees set up in each local area. The *rural* areas would be cared for by special provision made by the state agency.

Who shall benefit? (page 11) (See Bulletin No. 25) Persons employed in certain occupations and their dependents, as well as self-employed persons, may qualify for benefits.

The *benefits* to be derived are enumerated on pages 5-7.

On pages 9 and 10, the matter of *free choice* of physician is defined.

The *method of payment* for services is defined on pages 20-24.

Selection of physician and hospital may be from those only who have agreed to operate under the Government plan (pages 9 and 10).

All physicians, dentists, nurses, and hospitals qualified to render services under the State are *eligible for cooperation* under the Government plan (pages 14-16).

The Board shall set up standards for the qualification of *specialists* (page 14).

Can the *existing prepayment plans* continue to function? (page 17) The state agency is authorized to negotiate with any such organization for the continuance of its functioning. No negotiations could exempt the member of a prepayment plan from the deductions from his salary that the national plan would require. Therefore, it is not likely that many people would for any length of time choose to pay twice for such medical care as they may require. Naturally, the prepayment plan would suffer and in a short while fold up.

How will the national plan be financed? (page 51) In 1951, by a deduction of 1 per cent from all wages received during the fiscal year (page 52). In 1952 and thereafter, by a deduction of 3 per cent from all wages for the fiscal year (page 52). The unexpended balances each year are to be collected into a new account set up by the Treasurer of the United States, to be known as the *"Personal Health Services Account."*

The National Board is authorized to allot amounts annually to the several states according to a formula (page 54) for the prosecution of its plan.

Medical Research and Education (page 57). The National Board is also authorized to administer grants-in-aid to non-profit institutions and agencies engaged in research.

Grants to States for Health Services (page 68). Sums of money are to be made available to the state agencies to enable them to establish and maintain a certain number of medical and public health services.

REGULATIONS (Pages 79 and 80)

"Sec. 309. The Federal Security Administrator shall prescribe such regulations as may be necessary to carry out his functions under this title. All such regulations or amendments of regulations with respect to grants to States shall be prescribed only after consultation with a conference of representatives of the State agencies administering or supervising the administration of any of the plans affected by such regulations or amendments. Insofar as practicable, the agreement of such representatives to the regulations or amendments shall be obtained prior to their issuance."

Naturally all programs depending upon Federal subsidy will be influenced to a degree by regulations issued and adopted by the Federal Security Administrator. An effort is made in the bill to decentralize control, but the authority of the National Health Insurance Board, which operates with the approval of the Social Security Administrator, extends into all areas where the Federal funds are employed. It is proposed that the individual shall exercise free choice in selecting his physician, and the

physician shall have the power to select his clients, but both of these actions must be taken by people who have agreed to work under the Government program and the employed individual has no alternative but to submit to the deduction from his wages.

Obviously, the future of public health and medical activities in the United States would rest with the Administrator of the Federal Security Agency and the five members of the National Health Insurance Board. Administrative rules and regulations, which they would be obliged to draft, would in a very short time be many times more voluminous than the law itself.

No hearings have been announced as yet for either house. In the meantime please discuss the features of the bills with your congressmen, prominent citizens of your community and your neighbors.

Hill-O'Connor Bill Analyzed by Whitaker and Baxter.

The following is a very recent analysis by Whitaker and Baxter of Senate Bill 1456 on Voluntary Health Insurance, introduced March 30. Whitaker and Baxter is the Public Relations firm employed by the American Medical Association in connection with its National Educational Campaign.

ANALYSIS

A BILL to authorize grants to enable the States to survey, coordinate, supplement and strengthen their existing health resources so that hospital and medical care may be obtained for all persons.

PURPOSE

To make high quality hospital and medical care available to all by

1. providing protection to persons financially unable to pay all or part of subscription charges for prepayment of hospital and medical care.
2. stimulating voluntary enrollment in prepayment plans for hospital and medical care emphasizing
   a. employer participation in transmission of subscription charges
   b. enrollment in rural areas.
3. strengthening and coordinating existing health resources.

DEFINITIONS

a. "Hospital and medical care" is defined to mean surgical, obstetrical and medical services furnished in the hospital and hospital services incident thereto up to 60 days in any year. It includes diagnostic and out-patient clinic services furnished in a hospital or diagnostic clinic.

b. "Hospital" includes any hospital which has an average patient stay of less than 30 days or any diagnostic clinic. The hospital or diagnostic clinic must conform to standards of maintenance and operation established by the State.

c. "Voluntary prepayment plan" may include any corporation or association furnishing protection against the cost of hospital and medical care on a voluntary prepayment basis. Only "non-profit prepayment plans" are to be concerned with furnishing protection to persons unable to pay subscription charges. But both commercial and non-profit plans may be involved in other sections of the program (see below).

ADMINISTRATION

At the *Federal level* the program would be administered by the Surgeon General. Regulations to be promulgated within six months after enactment of the Act shall include:

a. General standards of eligibility of persons unable to pay subscription charges.
b. General types of hospital and medical care to be provided
c. General standards for participation of voluntary prepayment plan
d. General standards for participation of non-profit prepayment plans
e. General methods of assisting in enrollment of the population in prepayment plans by states.

A Federal Hospital and Medical Care Council of 10 persons (2 doctors, 2 hospital administrators, 2 prepayment plan executives, 4 consumer representatives) will share responsibility with the Surgeon General in developing these broad policies of the program.

At the local level the program is to be administered by a state agency which may be the same agency now administering the Hill-Burton Hospital Survey and Construction program in the state. This agency is to have a council with representation similar to that of the Federal Hospital Care Council.

In addition, the states are to be divided into *regions* in which complete hospital and medical services are available. These regions may be already established under the surveys of the Hill-Burton Act. Within each region a Hospital and Medical Care Authority shall operate as a unit of the state agency. The Authority will be composed of persons residing within the region including representatives from as broad a segment of the population as possible. The Authority shall encourage coordination of all health facilities and services in the region and recommend means for their effective use in serving the areas.

FINANCING

Federal appropriations are authorized for such sums as may be necessary.

Federal funds are to be matched on a variable percentage by funds from within the states. The same formula is used as in the Hill-Burton Hospital Survey and Construction Act, which provides that a higher percentage of Federal funds will be available to states with lower per capita income. The practical limit of the program may be the amount of money which must come from within the States to match Federal funds.

The State plan must provide that the State itself will put up at least 50 per cent of the matching funds so that

half or less than half of the matching percentages will come from local communities.

THE PROGRAM

Essential features of the State plans, in addition to the foregoing, are:

1. Federal funds must be used in addition to present activities and not as a substitute source of financing for things now being done.

2. Determination of eligibility for assistance shall be made in advance of the need for hospital and medical care, insofar as possible; the individual shall not be identified as a person accepting assistance at the time of receiving care; the individual shall not be provided a separate grade or classification of care because of accepting assistance.

3. Prepayment service cards will be issued to qualified persons which will entitle them to needed hospital and medical care if they are certified as unable to pay subscription charges. These cards will be issued by appropriate agencies designated by the State and will be cards of participating non-profit prepayment plans who meet standards prescribed by Federal regulations.

4. Persons able to pay subscription charges in full may be enrolled in the usual manner by the prepayment plans. But persons able to pay part or none of the subscription charge shall receive care at the expense of the State agency under this program.

5. Four surveys must be made by the State agency, and in each case, plans are to be developed for meeting needs of the State for:

a. Existing diagnostic facilities.
b. Existing facilities, services and financing for the care of mental, tubercular and chronic disease and other patients hospitalized for long periods of time.
c. Areas in the state unable to attract doctors.
d. Existing enrollment in participating voluntary prepayment plans.

6. The States and political subdivisions must provide for payroll deductions of subscription charges in voluntary prepayment plans for all employees who request such deduction.

7. The Bill also provides for payroll deductions for Federal employees who request it for subscription charges of prepayment protection.

MISCELLANEOUS

American Medical Association Assessment for Educational Campaign.

In the lists published in the March and April issues of the MONTHLY, there were reported 1023 contributors from Virginia to this fund. Including the House Staff of the Hospital Division of the Medical College of Virginia as one contributor, the total number, with names here listed to April 16 is 1185.

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Dr. L. A. Busch

Hanover
Dr. Judson T. Vaughan

Lee
Dr. J. W. H. Morgan

Lynchburg Academy
Dr. Kenneth Cooper
Dr. B. F. Randolph

Northampton
Dr. S. K. Ames
Dr. H. L. Denoon
Dr. C. T. Garcia
Dr. J. E. Gladstone
Dr. William T. Green
Dr. John R. Hamilton
Dr. J. W. Jackson
Dr. J. M. Lynch
Dr. John R. Mapp
Dr. W. J. Sturgis
Dr. W. J. Sturgis, Jr.
Dr. W. B. Trower

Northern Virginia
Dr. Lyle J. Hansbrough
Dr. John T. Thornton
Dr. F. Dixon Whitworth

Orange
Dr. E. B. Dovell
Dr. C. Cameron Kress

Patrick-Henry
Dr. W. C. Akers
Dr. C. G. Bennett
Dr. B. A. Hopkins
Dr. Henkel M. Price
Dr. W. N. Thompson

Princess Anne
Dr. Herbert W. Swertfeger

Richmond Academy
Dr. Paul V. Anderson
Dr. T. Neill Barnett
Dr. Robley D. Bates, Jr.
Dr. Thomas Beath
Dr. W. S. Beazley
Dr. J. F. Blades
Dr. J. Gordon Boisseau
Dr. W. R. Bond
Dr. Randal A. Boyer
Dr. Samuel W. Budd
Dr. E. L. Copley
Dr. S. M. Cottrell
Dr. W. H. Craig
Dr. Herbert T. Dougan
Dr. C. Howe Eller
Dr. James B. Funkhouser
Dr. William T. Graham
Dr. Alvah L. Herring, Jr.
Dr. Lucy S. Hill
Dr. Sarah Hoover Jones
Dr. William R. Kay
Dr. William A. Johns
Dr. C. S. Lingamfelter
Dr. John P. Magner
Dr. H. Norton Mason
Dr. Howard R. Masters
Dr. Emmett C. Mathews
Dr. Carl W. Meador
Dr. William T. Moore
Dr. Claude L. Neale
Dr. C. L. Outland
Dr. Joseph C. Parker
Dr. E. W. Perkins
Dr. John H. Reed
Dr. Peter Rosanelli
Dr. J. Asa Shield
Dr. H. C. Spalding
Dr. J. B. Stone
Dr. W. D. Suggs
Dr. Adney K. Sutphin
Dr. L. E. Sutton
Dr. Isabel Taliaferro
Dr. Robert P. Trice
Dr. Robert W. Vaughan
Dr. T. Duval Watts
Dr. William L. Weaver
Dr. Samuel Weinstein
Dr. Charles G. Young

House Staff, Medical College of Virginia Hospital

Southwestern
Dr. Joseph R. Blalock
Dr. D. C. Boatwright
Dr. Lee M. Cole
Dr. R. M. DeHart
Dr. Clara K. Dickinson
Dr. A. B. Graybeal
Dr. Walter A. Porter
Dr. Carolyn A. Sherrill
Dr. P. S. Smith
Dr. S. A. Tuck
Dr. R. L. Waddell
Dr. George A. Wright

Williamsburg-James City
Dr. E. Beamer Maxwell

CORRESPONDENCE

Dr. Macon—Correction in Dates.

TO THE EDITOR:

In the March issue of the *Virginia Medical Monthly* there appears an obituary of Dr. William Douglas Macon of Charlottesville, Virginia, written by the undersigned and adopted in the form of a resolution both by the Albemarle County Medical Society and the Medical Faculty of the University of Virginia. The obituary contains a serious historical error which we should like to have corrected in the columns of the *Monthly*.

In the published document it was stated that Dr. Macon was Professor of Obstetrics for the year 1923-24 and that previous to that time he had had instructorships in anesthesia and internal medicine. The correct facts are that Dr. Macon was appointed Professor of Obstetrics at the University of Virginia on June 11, 1906 to begin his service in that capacity on September 12, 1906; and that he resigned in a letter received by the Board of Visitors at its meeting on April 17, 1923. This resignation was accepted, but Dr. Macon continued to serve as Professor of Obstetrics through the academic year 1923-24. His tenure as Professor was therefore eighteen years instead of one year.

The inaccurate data in the obituary were furnished us by the Alderman Library where they appeared on Dr. Macon's curriculum vitae. When by chance it was seen that Dr. Macon had signed a diploma of the year 1920 with the title "Professor of Obstetrics", investigation revealed the error in the library records. We are grateful to Mr. Jack Dalton of the Alderman Library for the research necessary to uncover the error.

We should like to apologize to Dr. Macon's family for this serious misrepresentation and to see that the published record of his life is corrected.

HALSTEAD S. HEDGES, M.D.
EDWIN P. LEHMAN, M.D.

April 13, 1949
University of Virginia Hospital
Charlottesville, Virginia

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... MRS. R. M. REYNOLDS, Norfolk
President-Elect ..... MRS. C. E. HOLDERBY, Hilton Village
Recording Secretary ..... MRS. T. S. CHALKLEY, Richmond
Corresponding Secretary ..... MRS. CHARLES LUPTON, Norfolk
Treasurer ..... MRS. REUBEN SIMMS, Richmond
Parliamentarian ..... MRS. H. W. ROGERS, Norfolk
Historian ..... MRS. M. H. HARRIS, West Point

Last Call

For reservations for the twenty-sixth annual convention of the Woman's Auxiliary to the American Medical Association, which will be held at Haddon Hall, Atlantic City, New Jersey, June 6th to 10th.

Atlantic City extends a hearty welcome to you!

Petersburg.

At the meeting of this Auxiliary held on March 25th, Mrs. James H. Powell and Mrs. Francis N. Taylor reported that at the annual linen shower held in February $566.40 was raised. They voted to contribute $40.00 to the Leigh-Hodges-Wright Memorial Fund.

It was decided to celebrate "Doctor's Day" with a dinner for doctors and wives at the Indian Swamp Club. Plans were also discussed for a rummage sale to be held in May.

Mrs. William Grossmann is president of this Auxiliary.

Warwick County.

The Woman's Auxiliary to the Warwick County Medical Society has again presented a fifty dollar award to an outstanding student nurse. The presentation took place March 11th at the capping exercises of the Elizabeth Buxton Hospital School of Nursing. Mrs. Waverly R. Payne conferred the award on Miss Jean Plentovich of Hornsbyville. In addition to Mrs. Payne these auxiliary members attended the capping ceremony and the reception which followed: Mrs. Chester D. Bradley, Mrs. Russell VonLehn Buxton, Mrs. Murray Dick and Mrs. Vincent E. Lascara.

Later in the year a similar award will be given to an outstanding student at the Riverside Hospital. The Lucile Hunnicutt Jones Award was established in 1947 to honor and perpetuate the memory of one who was in her lifetime a devoted member of the Auxiliary. The raising of funds for this award is the major activity of the Woman's Auxiliary to the Warwick County Medical Society. This money has been raised by means of bazaars and other activities carried on by the members themselves. The chairman of the Award Committee this year is Mrs. Waverly R. Payne.

MIRIAM D. BRADLEY
(MRS. CHESTER D.)
President

Richmond.

At the meeting of this Auxiliary on February 18th, Mrs. R. M. Reynolds, State President, gave a report on the local and state organizations and their relationship to each other.

On February 22nd, an exhibit tea was given at the home of Mrs. James Blades. Members of the Auxiliary and their friends contributed interesting articles for display, among them a 150 year old Bible from England, rare jade, silver, needlepoint, hangings, china, trinket boxes, old fans, oriental objects of art, wood carvings, and salt glaze figurines. The tea was an outstanding success and four hundred dollars was realized. As a result, it was announced that over three hundred and fifty dollars would be donated to Sheltering Arms Hospital.

At the regular meeting on March 18th, Miss Testor, Red Cross Nurse, stationed in Richmond, gave a talk on "Poliomyelitis from a Nurse's Standpoint".

A cocktail party and dinner dance is planned for April 22nd for the doctors and wives at the Country Club of Virginia as the Auxiliary contribution to "Doctor's Day".

JULE RAY (MRS. EDWARD S.)

EDITORIALS

Edward Jenner (1749-1823)

ON the 27th of May two hundred years ago, there was born at Berkeley, Gloucestershire, one of the great men in medicine, a country doctor who discovered a sure and practical way of preventing smallpox. It is difficult for us, many of whom have never seen a case of smallpox, to form any idea of the importance of Jenner's discovery. Today we have a branch of medical science, immunology, that deals with protection from disease by inoculation, vaccination, etc. Jenner was the pathfinder in this new science. Before Jenner's time smallpox was the No. 1 killer. It was (and still is) as contagious as measles and was universally prevalent. An adult whose face was not disfigured with pock marks was a rarity. Great epidemics spread over the country periodically whenever a new generation of susceptible persons grew up. As long as there was smallpox there was no problem of over population. Attempts were made to control the disease by artificial inoculation with a mild form of smallpox but such efforts were too frequently the starting points of new epidemics. It was so universal in England that it deterred wealthy settlers of Colonial America from sending their sons to the English Universities. The Rev. Hugh Jones, the minister at Jamestown, says "though the *Virginians* being naturally of good parts, neither require nor admire as much Learning as we do in *Britain;* yet more would be sent over, were they not afraid of the Small-Pox, which most commonly proves fatal to them." Matthew Bailey, the richest and most sought after physician in London at the time, declared vaccination to be the most important discovery ever made in medicine. Jenner, directly and indirectly, has saved more lives than anyone who has ever lived.

Edward Jenner was the third son of a country clergyman. After serving an apprenticeship under Daniel Ludlow, a surgeon, he went to London as a resident pupil of John Hunter. He pursued his professional studies at St. George's Hospital. In 1773 he returned to practice in Berkeley. He was interested in botany and ornithology, played on the flute and the violin, and wrote an occasional poem. He helped to found a local medical society and kept up a correspondence with John Hunter. In 1788 he was elected a Fellow of the Royal Society.

There had long been a belief in Gloucestershire that dairy maids who contracted cowpox never had the smallpox. Jenner wrote John Hunter that there seemed to be some truth in this folklore. On May 14, 1796, he vaccinated James Phipps, an eight-year old boy, with the lymph taken from the vesicles of cowpox on the hand of Sarah Nelmes. On July first the boy was inoculated from a case of smallpox, without any effect. A report of this case in Jenner's handwriting still exists. In 1798 Jenner published a report of 23 cases. For several years after this he devoted all his time to vaccinating, improving the method and replying to criticisms. He introduced the familiar ivory points, which many of us older doctors well remember, as a means of conveying the lymph. As usual with new public measures, vaccination met with considerable opposition. Its adoption in London was also threatened by the over-enthusiasm of its friends who used a contaminated type of vaccine. Yet with patience and truth Jenner prevailed and soon he was acclaimed throughout Europe. He was elected a member of the chief scientific societies. At the mere mention of his name, Napoleon released some Englishmen who had been interned after the sudden termination of the Peace of Amiens.

In 1800-01, Dr. Benjamin Waterhouse introduced vaccination into America with the help of Thomas Jefferson. In 1853 vaccinations were made compulsory in England,

and smallpox practically disappeared as it has in every country that has an efficient vaccination program. Since July 5, 1948, the Vaccination Act in England has been repealed as the Minister of Health holds that vaccination is no longer necessary—an ignominious end of a glorious chapter in preventive medicine.

Clippings from English Newspapers Concerning the National Health Service

WITHIN the past month we have received a batch of clippings from a lady we met on a bus trip to Scotland in 1947. This lady admits that she does not like the National Health Service. She says she has a cold but that she did not go to her doctor because he was rude to her when before July 5th he had been so considerate.

There were seven clippings in the batch. The first, a short one, roughly dates the material, for it quotes Lord Horder after the meeting of the "Fellowship for Freedom in Medicine" in which it was decided not to press for repeal of the Health Act, but for its drastic amendment. Lord Horder said that Mr. Bevan, in addition to his supplementary budget of £58,000,000, would have to face a bill of £16,000,000 to cover the loss of income suffered by the doctors taking part in the National Health Service.

Clipping No. 2 is headed "Hospitals are told to save £9,500,000". Mr. Bevan has said that the estimates of the requirements of hospitals for 1949-50 exceed what it is possible to provide.

Clipping No. 3 is on a report of an Oxford economist on life in the Cripps age. The middle class pays and pays. The standard of living has fallen 7 per cent. Wage earners' living costs have risen 75 per cent since before the war.

Clipping No. 4 is a long one concerning Alpha-tocopherol. Four questions appeared in the House of Commons inquiring about the attitude of the Ministry of Health to this new medicine and why it cannot be had in Britain. "If one is to judge by the replies given to representations made to it (the Ministry of Health) over and over again, it is based on the conclusion that 'Alphatocopherol' was classed recently (note the official language) 'among the substances which are regarded as being non-essential for the health of the community'. Who decided this?"

Clipping No. 5 headlines are "Patients die for lack of beds". London doctors have protested to Mr. Bevan that many sick people are being turned away by the hospitals—to die. The Emergency Bed Service is refusing beds to 500 patients a week. The Chairman of the Cambridge United Hospitals Board of Governors, which was ordered by the Ministry to reduce its estimates by £425,000 said that the only way they can carry out instructions is by reducing staff and closing down wards. Hospital management committees have been told by the Ministry of Health to stop free issues of sweets, tobacco and pocket money.

Clipping No. 6 is on sweeping away sex taboos. The following recommendations are in a report issued by the Ministry of Health.

Children: Health education begins in the good home or nursery school with the inculcation of good habits. The child's questions about the function of the body including reproduction, should be answered simply and truthfully and the child should have acquired some knowledge of anatomy and physiology, including reproduction, before the age of puberty is reached.

Mothers: There has been much controversy about the relative advantages to both mother and child, of parturition in the home or in the hospital. It is said that the

home is the natural place for the baby's birth and that its atmosphere has a psychological effect on the mother, tending to promote easier labor and successful breast feeding. On the other hand, the mother at home is seldom free from her anxieties and household cares.

Fathers: Training boys and young men must also receive consideration. In the modern family, especially where the wife is gainfully employed, the man's participation in household duties is necessary for cooperation and harmonious living.

Marriage: The main attack upon the recent increase of venereal disease should be a raising of the standard of sexual morality and fidelity in marriage. Early marriage should be encouraged.

Clipping No. 7 is a comment on the Tory defeat in South Hammersmith. This hard fought battle is notable for two illusions which the Socialists fostered. One was that the Tories would welcome large-scale unemployment. The other was that they were opposed to the National Health scheme. The reporter says that the Tories would not have made doctors the lackeys of the State and they would have continued voluntary and municipal hospitals. Mr. Bevan abolished both, and now the bills are beginning to come in. On top of this year's miscalculation of £58,000,000 the taxpayers must find an additional £53,000,000 next year. If health, defense, food or anything else needs more money, that money of course must be found. What sensible people criticize is the wastrel incompetence of these so-called planners who plan for a certain result for a certain sum and then find that their estimates are wildly inaccurate. The final result is always the same, more millions thrown away and more taxes are demanded. They remind us of the crack-pots who have studded the English countryside with unorthodox and unfinished structures which are known as "So and So's Folly". The political landscape is littered with monuments like Strachey's Acre (the ground nuts scheme), Bevan's Bower (waste in health service) and others, but such extravagances are not funny, they are too expensive. Even the "dimmest wits" in the Socialists ranks are discovering that the cash does not come from some mysterious source called "the rich". It is their money and your money that is being wasted. The Socialists can spread their lie about the Tory wish for unemployment, but they themselves, even with Marshall Aid, will be lucky indeed if in face of a rising world competition, British industries can be maintained.

The Washington Gynecological Society's Essay Contest

THE sixty-seventh meeting of the Washington Gynecological Society on March 26th was notable as a successful attempt at a new type of postgraduate training. Some months ago a contest for residents in obstetrics and gynecology in metropolitan Washington was announced. The two contestants writing the best papers were to receive prizes. In addition, they were to read their essays at a meeting of the Society.

Seven essays were presented. We were privileged to read these papers and they were all good. The two papers selected were: The Relief of Pain in Childbirth by Dr. William Gordon Leary, and A Shock Team for Obstetrical Hemorrhage by Dr. Jean E. Paquin. Both papers were freely discussed at the meeting and the two essayists handled themselves well in closing the discussions. Simply as a medical meeting, the evening was well worthwhile, but in its broader implications, it deserves serious consideration.

Seven young men in the beginning of their professional careers were encouraged to

thoroughly explore a subject and to put their thoughts down on paper in an orderly manner. This, in itself, has a distinct educational value. At one time it was necessary to write a thesis and defend it in order to get a degree in medicine. Somewhat later, entrance into a learned society was had on the same terms. Why such requirements were abandoned is not clear. Theses as medical literature have not been important. Their circulation was limited. As a rule they were poorly indexed and most libraries simply bound them in odd lots and put them on a back shelf. But who can estimate how much benefit the writers of these theses received from such intellectual exercise? Furthermore they have a distinct value to the medical historian. What better evidence could you want of what was taught in any given period? H. S. Levert's thesis on Metallic Ligatures is good evidence that dogs were used for experimental purposes at the University of Pennsylvania as early as 1829. Peter Miller's thesis in 1804 and William Potts Deweese's thesis in 1806 clearly show that the same University was interested in the relief of the pains of parturition in the beginning of the 19th Century.

Weir Mitchell or Oliver Wendell Holmes, one or the other, once said that printer's ink was the most intoxicating of all fluids. Any effort to get a young doctor started in writing is worthwhile. More societies should follow the lead of the Washington Gynecological Society in this respect.

SOCIETIES

The Northern Virginia Medical Society

Held its tri-yearly meeting at the Woodstock Hotel, Woodstock, on April 12. Dr. Harold W. Miller, president, presiding. Doctors present were: George Parrott of New Market; Conrad Gossels of Mt. Jackson; R. W. Stoneburner and F. C. Downey of Edinburg; F. W. Gearing, Jr., H. W. Miller and L. K. Woodward of Woodstock; G. E. Hartle of Moorefield, W. Va.; George Long, M. J. W. White, and E. G. Naslund of Luray; C. W. Trott of Stanley; G. G. Crawford, E. L. Hopewell and F. D. Maphis, Jr., of Strasburg; R. K. Butler, Elizabeth Sherman, C. E. Foley and D. M. Kipps of Front Royal; Thomas Iden, C. H. Iden and Frank Tappan of Berryville; E. W. Lacy, J. A. Miller, Leslie Bell, Carrington Harrison, C. L. Riley, Edmund Horgan, J. R. Troxell, Monford Custer, Bradford Bennett and John McL. Adams of Winchester; Charles Bondurant and L. C. Haynes of Newton D. Baker Hospital at Martinsburg, W. Va.

Interesting case reports were given by Dr. C. L. Riley, Dr. Leslie Bell, Dr. L. K. Woodward and Dr. F. W. Gearing, Jr. Following these, an instructive color and sound film on "Peptic Ulcer" was shown to the group by Mr. J. G. Elletson, regional representative for Wyeth Incorporated.

Dr. William R. Sandusky, assistant professor of surgery at the University of Virginia, was guest speaker, and gave a most helpful talk on "The surgical Aspects of Gastric and Duodenal Ulcer". He was made honorary member of the society.

New members received into the society were Drs. Frances Ford and Bradford S. Bennett of Winchester and Dr. John F. Cadden of Front Royal.

Following a business session and luncheon, the meeting adjourned to meet in Luray, on August 9, 1949.

FRED D. MAPHIS, JR.
Secretary-Treasurer

Annual Spring Clinic.

The Norfolk County Medical Society held its annual Spring Clinic in hospitals of that city on April 6, with Dr. George A. Duncan as chairman of arrangements. There were many visiting physicians from Tidewater Virginia and North Carolina and the following program was presented:

AT NORFOLK GENERAL HOSPITAL
MORNING SESSION

Diagnosis of Genital Malignancy by Vaginal Smears—Wm. E. Byrd, M.D.
The New Analgesics—C. N. Psimas, M.D.
The Hernia in Childhood—Charles Davis, M.D.

Prevention of Deafness—A. A. Burke, M.D.

Treatment of Complete Rectal Prolapse—Wm. B. Wiley, M.D.

Diverticuli of the Duodenum—A. B. Hodges, M.D., and P. B. Parsons, M.D.

Lithium Intoxication—Joseph Lea, M.D.

Marie Strumpell Arthritis—Geo. G. Hollins, M.D., Edward Levy, M.D., and K. K. Wallace, M.D.

Medical Guest—Fungus Diseases—D. G. Martin, M.D., Columbia and Duke Universities.

This program was followed by luncheon as the courtesy of the Hospital.

DE PAUL HOSPITAL
AFTERNOON SESSION

Diagnosis by Endoscopic Methods—Neil Callahan, M.D.

Giant Segmental Ureter—John H. Hill, M.D.

Streptomycin in Tuberculosis—A. Kruger, M.D.

Unnecessary Vaginal and Pelvic Surgery — George Schenck, M.D.

Surgical Guest Speaker—Anatomy of the Hand—Joseph E. Markee, M.D., Duke University.

Following the scientific sessions, those attending enjoyed a social hour at Norfolk Yacht and Country Club, as a courtesy of Leigh Memorial Hospital, and this was followed by dinner and entertainment.

Williamsburg-James City County Medical Society.

Dr. Guy W. Horsley, Richmond, councilor for the district, and Mr. Henry S. Johnson, director of Public Relations of the State Society, were guests at the March 25th meeting of this society. Election of officers was held at this time and Dr. Joseph E. Barrett was elected president; Dr. Eleanor Beamer-Maxwell vice-president; and Dr. Granville L. Jones secretary-treasurer. All are of Williamsburg.

The Wise County Medical Society

Added another gala event when Dr. E. J. Benko of Norton entertained thirty-three members and guests at the Lonesome Pine County Club with a steak dinner and all the trimmings, on April 6th. Dr. Mason Romaine, Director of the Bureau of Cancer Control of the State Health Department, Richmond, spoke on Early Diagnosis of Cancer and showed a film on Cancer, the Problem of Early Diagnosis. A film on therapeutic exercise was shown—as well as (by mistake) the Siege of Antwerp. New members elected at this time are Drs. Edward B. Blum, Dunbar and Theodore C. Andrew, Norton. Delegate and alternate to the State Society meeting in the fall were also named.

The next meeting of this Society will be held in Norton on June 8th.

T. J. TUDOR, *Secretary*

Hanover County Medical Society.

A meeting of the Hanover doctors was called on March 16th and reactivation of the Society was discussed. Dr. J. A. Wright of Doswell resigned as president and Dr. A. E. Murray of Beaverdam was elevated from vice-presidency to fill the position. Dr. John D. Hamner, Jr., Ashland was re-elected secretary-treasurer. It is planned to have a meeting late in May or early June and at that time to have as guest speakers Dr. Guy W. Horsley, councilor for the district, and Mr. Henry S. Johnson, director of Public Relations of the State Society.

Roanoke Academy of Medicine.

On April 4th, the scientific program of the Academy was arranged and sponsored by the Gill Memorial Hospital, and a paper was presented by Dr. John N. Lundy of the Mayo Clinic, Rochester, Minn., entitled Why the Anesthesiologist May Aid You in the Care of Your Patient. The other paper of the evening was on The Story of Penicillin by Dr. L. P. Garrod of the University of London, England. Following the meeting, members of the Academy were guests of the staff of the Gill Memorial Hospital at a buffet supper in the ball room of Hotel Roanoke.

Lynchburg Academy of Medicine.

Dr. W. T. Pugh presided at the regular meeting of the Academy on March 14 at which time Dr. E. G. Scott was appointed as a member of the district council. Dr. Patrick H. Drewry, Jr., of Richmond addressed the Academy on "Early Diagnosis of the Psychoses".

NEWS

Annual Meeting, Medical Society of Virginia.

Under the leadership of Dr. Waverly R. Payne, Newport News, the medical profession of the Virginia Peninsula is making plans for the annual meeting of the Medical Society of Virginia, October 9-12. Doctors of the Peninsula area are especially enthusiastic about the meeting, for this will be the first meeting of the Society on the Virginia Peninsula since 1902 when it met at Newport News. Indeed there has been only one other meeting on the Peninsula in all the history of the Society. This was in 1881 when it met at the Hygeia Hotel at Old Point Comfort with Dr. Hunter McGuire of Richmond in the chair. So when the Medical Society of Virginia comes back to Old Point Comfort this coming October it will be after a lapse of 67 years.

The Local Committee on Arrangements, headed by Dr. Payne, is preparing a cordial welcome for the members of the Society. The Chamberlin Hotel which will house the meeting stands on the furthermost tip of the Peninsula. It commands a magnificent view of Hampton Roads and Chesapeake Bay. A stone's throw from the hotel is old Fortress Monroe, surrounded by a moat like a medieval castle. Tours by land and water are being organized for the members of the Society and their wives. For the sports-minded all the sports will be available. Special events for the visiting ladies are being planned by the Woman's Auxiliary. Dr. Payne has appointed the following chairmen: *Entertainment,* Dr. Edward L. Alexander, Newport News; *Registration,* Dr. Barnes Gillespie, Hilton Village; *Meeting Arrangements,* Dr. Robert H. Wright, Jr., Phoebus; *Golf and other Recreation,* Dr. Alfred A. Creecy, Newport News; *Scientific Exhibits,* Dr. J. Will Tankard, Hilton Village; *Publicity and Press Relations,* Dr. Chester D. Bradley, Newport News; and the *Woman's Auxiliary,* Mrs. Chester D. Bradley.

Keep a place on your calendar for Old Point Comfort in October.

CHESTER D. BRADLEY

Convention Hotels.

As previously suggested, reservations should be made promptly by those planning to attend the State meeting in October, as we are informed that a number have already been booked. In addition to rates at the Chamberlin, those for nearby hotels are:

HOTEL CHAMBERLIN

Single—$4.00, $5.00, $6.00, $7.00, $8.00 and $10.00.
Double—$6.00, $7.00, $8.00, $9.00, $10.00 and $12.00.
American Plan rate—$11.00 per person, double.
$13.00 person, single.

HOTEL LANGLEY

Singles—$2.00 to $4.00.
Doubles—$4.00 to $6.00.

HOTEL WARWICK

Singles—$4.00 to $4.50.
Doubles—$7.00 to $7.50.

Members of A.M.A. Can Attend Atlantic City Meeting.

The American Medical Association has advised that physicians who are members of that Association, as well as Fellows, will be admitted to the general, scientific and other meetings at the Atlantic City convention, June 6-10. However, only Fellows may take part in any of the official proceedings.

Conference for County Medical Society Officers.

The Fifth National Conference of County Medical Society Officers will be held in Atlantic City, June 5th. All physicians are invited but county medical society officers are especially urged to attend. The program is designed to answer some of the principle problems confronting county medical societies and it will include practical demonstrations of special activities, together with exhibits and examples. The speakers are to be selected from societies actually carrying on the activities under discussion.

The time is tentatively set for Sunday, June 5th, from 9:00 a.m. to 1:00 p.m. in the Rose Room of the Hotel Traymore. A special Sunday evening session is planned for that evening in one of the Boardwalk hotels, and this will be open to all physicians and their wives.

Medical College of Virginia News.

Dr. Morris Fishbein, editor of *The Journal of the American Medical Association,* spoke on the association's program for medical care on April 8,

in Richmond, under the sponsorship of the Medical College of Virginia's Gamma Chapter, Sigma Zeta, national honorary scholarship society for medical students. Dr. Fishbein discussed the AMA's counter proposal to President Truman's to provide medical care to those in need of it. At the close of the lecture, the medical journal editor conducted a lively discussion period.

The Medical College of Virginia will confer an honorary degree of Doctor of Science upon Dr. Wortley F. Rudd, dean emeritus of the college's School of Pharmacy, at the commencement of the college on June 7. Dr. Rudd served on the faculty of the Medical College of Virginia for 43 years, 27 of which he was Dean of the School of Pharmacy, the position from which he retired on June 1, 1947.

Seven members of the adjunct faculty have been promoted to the major faculty of the Medical College of Virginia School of Medicine, effective July 1. They are: Dr. Thomas W. Murrell, Jr., from associate to assistant professor in dermatology and syphilology; Dr. James O. Burke, from associate in medicine to assistant professor of medicine; Dr. G. Watson James, III, from research fellow in medicine to assistant professor of medicine.

Also Dr. H. St. George Tucker, Jr., from associate in medicine to assistant professor of medicine; Dr. Leslie Edwards from associate in physiology to assistant professor of physiology; Dr. Benedict Nagler from associate to assistant professor of psychiatry and neurology, and Dr. William L. Weaver from associate to assistant professor of public health.

The hospital division of the Medical College of Virginia will shortly start manufacturing its own oxygen. It is in the process of installing a generator capable of producing 500,000 cubic feet of oxygen per month. This will be the largest unit installed at a hospital in the world and the second unit to be installed in a hospital.

Oxygen obtained by the simple expedient of turning on a faucet will be piped at first to all operating rooms, emergency rooms, and nurseries in the hospitals of the division as well as to two private rooms on each floor.

The system is scheduled for full operation by July 1. The institution is renting the equipment from Air Products Corporation and will pay for it on a sliding scale based on the amount of oxygen consumed. Based on the current rate of consumption of from 150,000 to 200,000 cubic feet per month, the hospital will pay to generate its own oxygen an estimated $12,000, whereas at the present time it is paying about $21,000 per year.

New Film on Cancer.

A film, titled "Cancer: The Problem of Early Diagnosis", which has received the approval of the American Medical Association's Committee on Medical Motion Pictures, has been made available to the medical profession through more than 50 state and regional distributing points.

Through the efforts of its co-sponsors, the American Cancer Society and the National Cancer Institute of the United States Public Health Service, prints for single showings may be borrowed from State Cancer Society offices, State Health Departments, and four regional offices of Association Films located in New York City; Chicago, Illinois; Dallas, Texas; and San Francisco, California.

The film, designed for general practitioners, is based on the premise that if cancer were diagnosed early and effectively treated the death rate might be reduced by almost 50 per cent.

"Cancer: The Problem of Early Diagnosis" is the first in a series of six films to deal with the subject. The succeeding five, to be released within the next two years, will deal with diagnosis of cancer by specific body site.

Hospital and Medical Service Month.

The Richmond Area Community Council is sponsoring an educational campaign during May, to tell the people of the community about the advantages of prepaid plans for hospital and medical care.

T. R. Harrell, council president, says: "The Community Council feels that such an educational campaign will be a service to the people of the community. When sickness strikes, the cost of medical and hospital care often causes financial hardship for the average family. This can be avoided through prepaid plans for hospital and medical care.

"At present, however, only about half the people in this community are protected by these plans. So, the council is sponsoring this educational campaign because it believes that a community protected against the unexpected cost of serious illness is a better community."

Employers have been asked to assist in the campaign by informing their employees of the benefits of medical and hospital plans offered through their companies.

The Richmond Chamber of Commerce, which is cooperating in the drive, has urged larger employers to encourage employee participation in payroll deduction group plans or to provide for such a plan if it is not available. Other groups cooperating in the campaign include the Richmond Industrial Personnel Association, Women's Personnel Club, Richmond Personnel Executives Association, representatives of A.F.L. and C.I.O. and the Richmond Academy of Medicine.

Dr. B. W. Rawles, Jr., is chairman of a special Community Council committee which is arranging for speakers to address various civic clubs and other organizations.

New Fellows in the American College of Physicians.

Announcement was made at the Annual Convocation of the American College of Physicians March 30th in New York City of the election of seven Virginia physicians to Fellowship in the College. To be eligible for Fellowship, a physician must have been graduated from an approved medical school. serve three years as an associate in the College and, if engaged in practice, his professional activity must be limited to internal medicine.

Virginia physicians, thus honored, were: Dr. Wellford C. Reed, Dr. Sidney G. Page, Jr., and Dr. James M. MacMillan, Richmond; Dr. Charles L. Savage, Waynesboro; Dr. George S. Grier, III, Newport News; Dr. Robert E. Glendy, and Dr. Hal Davis, Roanoke.

Virginia State Board of Medical Examiners

The regular meeting of the Virginia State Board of Medical Examiners will be held at the Richmond Hotel, Richmond, on June 16th, 1949, and the examination on Part I and Part II will be held at the same Hotel June 17th and 18th.

All papers relative to the application for examination and for license by reciprocity must be filed with the Board not less than ten days before the date of meeting.

Address all correspondence on these subjects to Dr. K. D. Graves, 631 First Street, S. W., Roanoke, Virginia.

International Congress on Rheumatic Diseases

Will meet at the Waldorf Astoria in New York from May 30 to June 3. This Congress is sponsored and supported by several organizations including the American Rheumatism Association, the United States Public Health Service, and the Arthritis and Rheumatism Foundation, the latter being established only in 1948.

Inquiries concerning registration, the complete program, and other aspects of the Congress can be addressed to Mr. Robert D. Potter, Executive Director, 535 Fifth Avenue, New York, New York.

Virginia Doctors Attend Cincinnati Convention.

The greatest meeting of general practitioners ever to be held in this country was attended by forty-one Virginia doctors at Cincinnati the early part of March. There were more than 3,500 doctors registered. Since the outside figure in planning was for 2,000 doctors, it was necessary to exhaust all possible hotel accommodations in Cincinnati for this convention, and even then many had to return to their homes because of no facilities to accommodate them.

Dr. John O. Boyd, Jr., Roanoke, one of the founders of the national association, was elected to the board of directors and also was named chairman of the Hospital committee. Other Virginia doctors named on committees were: Dr. James L. Hamner of Mannboro on the Education Committee; Dr. J. D. Hagood of Clover on the Legislation and Public Relations Committee; and Dr. Edward E. Haddock of Richmond on the 1950 Assembly Program Committee. Dr. Walter B. Martin of Norfolk is one of the Advisory members of the Medical Coordinating Committee.

Those attending this meeting from Virginia are as follows:

Dr. John O. Boyd, Jr., Roanoke.
Dr. H. H. Braxton, Chase City.
Dr. Rufus Brittain, Tazewell.
Dr. J. Garnett Bruce, Gordonsville.
Dr. Kenneth N. Byrne, Lexington.
Dr. John W. Davis, Lynchburg.
Dr. Frank A. Farmer, Roanoke.
Dr. Ernest F. Flora, Roanoke.
Dr. L. M. Galbraith, Norfolk.
Dr. B. C. Grigsby, Bristol.
Dr. E. E. Haddock, Richmond.

Dr. J. D. Hagood, Clover.
Dr. James L. Hamner, Mannboro.
Dr. B. A. Hopkins, Stuart.
Dr. Louis A. Houff, Clifton Forge.
Dr. Ira H. Hurt, Roanoke.
Dr. Mary E. Johnston, Tazewell.
Dr. Clarence P. Jones, Jr., Newport News.
Dr. Otto Kastenbaum, Norfolk.
Dr. James C. Le Fon, Richmond.
Dr. Carl S. Lingamfelter, Richmond.
Dr. William S. Lloyd, Goochland.
Dr. John A. B. Lowry, Crewe.
Dr. C. F. Manges, Blacksburg.
Dr. Julius E. Mangus, Wytheville.
Dr. T. B. McCord, Fairfax.
Dr. James T. O'Neal, Amelia.
Dr. Wilkins J. Ozlin, South Hill.
Dr. Louis Perlin, Richmond.
Dr. N. F. Rodman, Norfolk.
Dr. Herbert W. Rogers, Norfolk.
Dr. Joseph Schechner, Norfolk.
Dr. Russell B. Smiley, Salem.
Dr. Robert J. Smith, Rich Creek.
Dr. Charles W. Steel, Suffolk.
Dr. G. F. Sutherland, Big Stone Gap.
Dr. C. R. Titus, Bedford.
Dr. S. A. Tuck, Pembroke.
Dr. Thos. M. Vorbrinck, Norfolk.
Dr. Fletcher J. Wright, Petersburg.
Dr. Geo. C. Williams, Pearisburg.

Personnel Notes from Department of Health.

Dr. Joseph E. Malcomson has been appointed Health Officer of the Halifax County Health Department effective March 16, 1949, with headquarters at South Boston.

Effective April 18, 1949, Dr. Myron P. Rudolph assumed his duties as Health Officer of the Pittsylvania County Health Department, Chatham.

South Atlantic Association of Obstetricians & Gynecologists.

At the recent meeting of this association, held in Williamsburg, Va., Dr. C. J. Andrews of Norfolk succeeded to the presidency, and Dr. Lester A. Wilson of Charleston, S. C., was named president-elect. Dr. Emmett D. Colvin of Atlanta, Ga., is secretary-treasurer. The next meeting will be held at Hotel Roanoke, Roanoke, Va., in February 1950.

The Neuropsychiatric Society of Virginia

Held its Spring meeting in the Academy of Medicine Building, Richmond, on the afternoon of April the 6th, under the presidency of Dr. C. L. Neale of this city. At this time the following papers were presented:

A Case of Hysterical Amnesia Treated by Hypnosis—Dr. Rafael A. Mora, Williamsburg.

A Critical Analysis of Fifty Cases of Spinal Fracture Due to Electro-shock—Dr. James B. Funkhouser, and Dr. Hiram W. Davis, both of Richmond.

Officers elected for the ensuing year are: Dr. James B. Pettis, Staunton, president; Dr. James K. Morrow, M.D., Radford, vice-president; and Dr. R. Coleman Longan, Richmond, secretary-treasurer.

A social hour and dinner in the Academy's dining room followed.

Course in Gastrointestinal Surgery.

The National Gastroenterological Association, in cooperation with the Postgraduate Division of Tufts College Medical School and the First and Second Surgical Services of the Boston City Hospital, announces a course in gastrointestinal surgery to be given at the Boston City Hospital, Boston, Mass., on October 27, 28, 29, 1949.

This will cover various phases of gastrointestinal surgery. It will be under the personal direction of Dr. Owen H. Wangensteen, Professor of Surgery, University of Minnesota Medical School, assisted by Lord Alfred Webb-Johnson, President of the Royal College of Surgeons, London, England, and the members of the surgical staff of the Boston City Hospital, as well as other distinguished guests. Enrollment in the course is limited to 250. The fee will be $35.00 per person. Veterans may take this course under the G. I. Bill of Rights. For further information and enrollment write to the National Gastroenterological Association, Dept. GSJ, 1819 Broadway, New York 23, N. Y.

New Film Added to A. M. A. Library.

The A. M A. has procured several 16 mm. prints of the motion picture "Modern Surgery," black and white, sound, 700 feet, one reel, showing time 15 minutes. It was produced by the March of Time and released to commercial theaters under the title "The Case of Mrs. Conrad." The film depicts the story of a surgical operation from the moment the family physician suggests hospitalization until the patient has fully recovered.

Physicians called upon to address lay audiences, such as service organizations, P. T. A. groups, and others may find this film a useful adjunct in their

lectures. It is procurable on loan (service charge $2) from the Committee on Medical Motion Pictures, A. M. A., Chicago.

Dr. Robert G. Dunn, Jr.,

Class of '42, Medical College of Virginia, and recently of Richmond, is now on duty in the x-ray department at the U. S. Naval Hospital in Philadelphia.

Health Education.

The Bureau of Health Education of the American Medical Association is sending to the secretary of each component society a questionnaire, on school health services in his community and the societies are asked to complete and return these to the A.M.A. as promptly as possible. The Association, in cooperation with the U. S. Office of Education, is making a survey of school health services with the hope of bringing about improvement of school health programs within the framework of the private practice of medicine.

Dr. John M. Ratliff,

Norfolk, announces the removal of his office for the practice of medicine to 5113 Colley Avenue, that city.

Married.

Dr. John Fulton McGavock, Crozet, and Mrs. Rosalie Stevens Kerr, Salem and Albemarle County, March 24th. They will make their home at "Montesano" in Albemarle County.

Ex-Interns of Stuart Circle Hospital.

At the sixteenth annual meeting of the ex-interns of Stuart Circle Hospital, Richmond, held in April, Dr. Algie S. Hurt, Richmond, succeeded Dr. Walter McMann, Danville, as president; Dr. John A. Stevens is vice-president and Dr. Robert V. Terrell was re-elected secretary.

Dr. Frank W. Reynolds,

Assistant professor of medicine and dermatology at the Medical College of Virginia, has been appointed as director of the Richmond Health Department's new program of home medical care for the indigent. The Health Department has made various changes in its former program of indigent medical care in order to provide better care for persons served and also to cut down the length of time such patients are kept in the hospital. The new plan provides for a general practice clinic at the Medical College of Virginia Out-Patient Department, with full-time physicians employed to conduct the clinic and to make necessary home visits. Dr. Reynolds will direct this program.

American Academy of Neurology.

Announcement is made of the establishment of the American Academy of Neurology whose purpose it is to further and encourage the practice of clinical neurology and to stimulate teaching and research in neurology and allied sciences. Active membership is open to every physician who has been certified in neurology or in both neurology and psychiatry. Junior membership is available to physicians presently engaged in postgraduate studies in neurology or who are awaiting certification in neurology. In addition, there is an associate membership for those who are not certified in neurology but whose interests are in fields related to neurology.

The first scientific meeting will be held at French Lick Springs, Indiana, June 1-3.

Communications to the Academy should be addressed to Dr. Joe R. Brown, 19 Millard Hall, University of Minnesota, Minneapolis 14, Minnesota.

The National Society for Crippled Children and Adults

Will hold its annual convention, November 7, 8 and 9 at the Commodore Hotel, New York. Prominent authorities working in the field of the handicapped will present latest developments at the three-day session marking 28 years of service for the Society. Delegates from 2,000 state and local affiliates of the National Society will discuss research, rehabilitation, training and treatment for the handicapped.

Further information about this meeting may be obtained from Lawrence J. Linck, executive director, 11 South LaSalle Street, Chicago 3, Illinois.

New Books.

Among books recently acquired by the Library of the Medical College of Virginia are the following which are available to our readers under usual library rules:

Anderson—Hydropthalmia.

Anderson—Detachment of the retina.

Bloom—Histopathology of irradiation from external and internal sources.

Campbell—Operative orthopedics. 2 vols.
Collen—The treatment of pneumococcic pneumonia in the adult.
Donner Foundation—Index to the literature of experimental cancer research, 1900-1935.
Dubois—Fever and regulation of body temperature.
Food and Nutrition Board—Survey of food and nutrition research.
Franklin, Barclay and Prichard—The circulation of the foetus.
Frey-Wyssling—Submicroscopic morphology of protoplasm and its derivatives.
Galdston—Social medicine; its derivations and objectives.
Harris and Beath—Army foot survey; an investigation of foot ailments in Canadian soldiers.
Hayes—Fundamentals of pulmonary tuberculosis and its complications.
McCord and Witheridge—Odors; physiology and control.
Macy and Williams—Hidden hunger.
Meakins—Symptoms in diagnosis. 2d ed.
Mitscherlich—Doctors of infamy; the story of the Nazi medical crimes.
Mollison—The Rh blood groups and their clinical effects.
Wiener—Ophthalmology in the war years. 2 vols.
Willmer—Retinal structure and colour vision.
Wolff and Wolff—Pain.

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Doctors Needed.

Requests are constantly received at the Society's office for physicians, mostly in small town and rural districts. Many of these should prove excellent openings for doctors desiring to locate. Lists available upon request to the Medical Society of Virginia at 1200 East Clay Street, Richmond.

OBITUARIES

Dr. William Norwood Breckinridge,

Prominent physician of Fincastle, died March 21st while attending a meeting of the Botetourt County Democratic Executive Committee. He was seventy-four years of age and received his medical degree from the University of the South, Sewanee, Tennessee, in 1904. After an internship, Dr. Breckinridge opened his office in Fincastle where he took a very active part in civic and medical affairs. He served as Mayor of Fincastle for about thirty years and county coroner for thirty-five years. He was prominent in Democratic party affairs of the State, having served for many years as chairman of the Botetourt County Democrats. Dr. Breckinridge had been a member of the Medical Society of Virginia for thirty-six years. His wife and three children survive him.

Dr. Benjamin Franklin Randolph,

Nelson County physician, died at his home in Arrington, March 30th, having been in ill health for some time. He was seventy-three years of age and a graduate of the former University College of Medicine, Richmond, in 1912. Dr. Randolph had been a member of the Medical Society of Virginia since 1913. A brother and three sisters survive him.

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—Hurst, A., in Portis, S. A.: Diseases of the Digestive System, ed. 2. Philadelphia, Lea & Febiger, 1944, p. 692.

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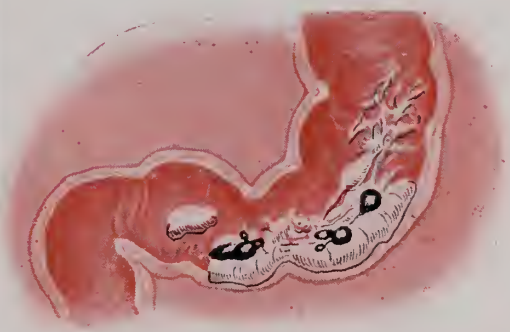

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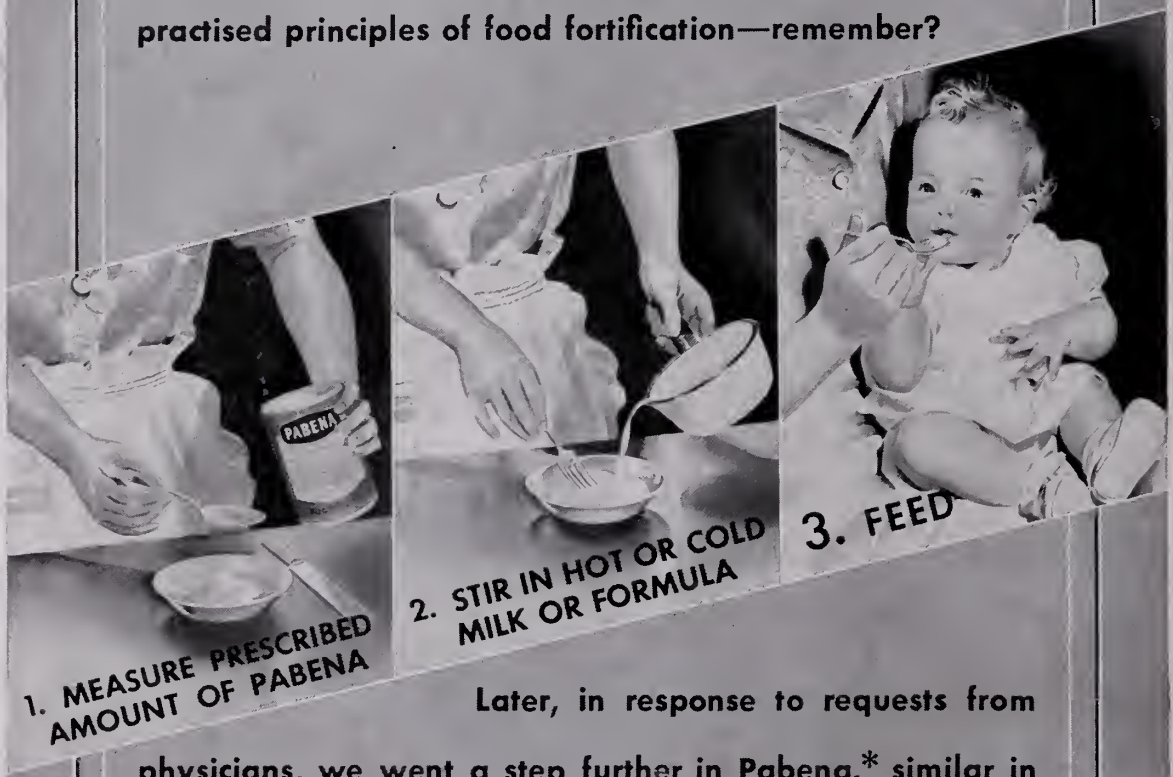

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CONTENTS

Guest Editorial. Howard A. Rusk, M.D. ---------- 271

Some Practical Public Health Problems in Virginia. E. M. Holmes, Jr., M.D., Richmond, Va. ---------- 275

The Use of the Antithistamine Drugs in Dermatology. Edwin E. Barksdale, M.D., Washington, D.C., and George S. Ellis, M.D., Bethesda, Maryland ---------- 278

Bacterial Endocarditis: Its Early Diagnosis and Modern Treatment. Paul D. Camp, M.D., Richmond, Va. ---- 281

Intrathoracic Hour-Glass Ganglioneuroma—A Case Report. H. Clarkson Meredith, Jr., M.D., Charlottesville, Va. -- 288

Hemostatic Absorbable Oxidized Cellulose in Traumatic Injuries. C. Frederick Johnston, Jr., M.D., F.A.C.S., Abingdon, Va. ---------- 292

A Consideration of the Effects of Minor Degrees of Failure of Fusion of the Mullerian Ducts. Gwen S. Hudson, M.D., Richmond, Va. ---------- 295

The Recognition of the late Pulmonary Residuals of Coccidioidomycosis. Randolph P. Pillow, M.D., University, Virginia, and Theodore E. Finnegan, M.D., Elyria, Ohio 298

Precocious Puberty in Girls. Randolph H. Hoge, M.D., Richmond, Va. ---------- 303

Adult Cardiac Rehabilitation. Nathan Bloom, M.D., Richmond, Va. ---------- 307

Anesthesia in its Relationship to Surgery. A. D. Hutton, M.D., Marion, Va. ---------- 308

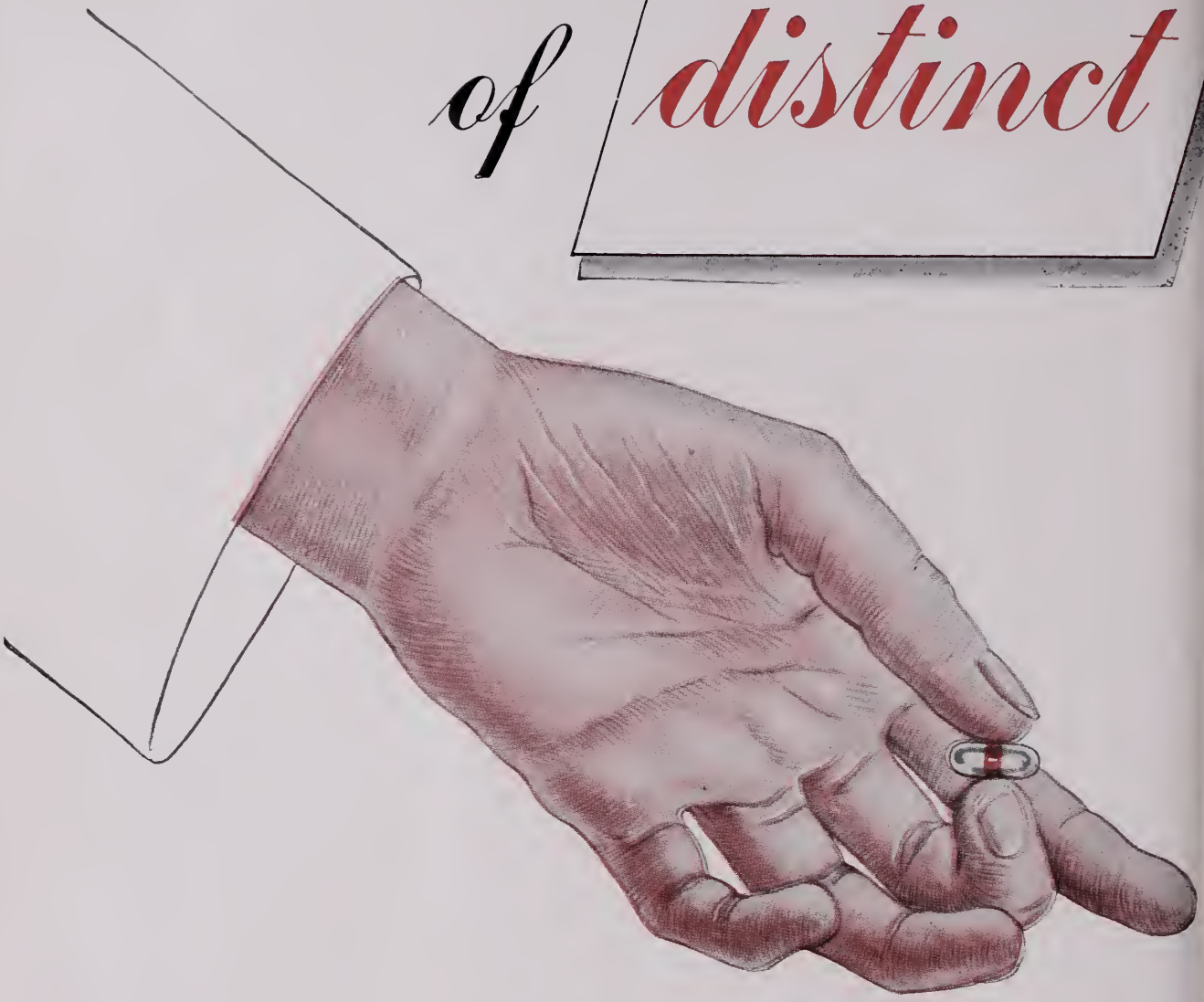
Continued on page 6.

LISTER
NUMBER

June, 1949

43

# of distinct



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*Magladery, J.: Therapeutic Conference, The Treatment of Epilepsy. Bull. Johns Hopkins Hosp., 82:609, (June) 1948.

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GUEST EDITORIAL

Dynamic Therapeutics in Chronic Disease

TODAY, as medical science moves forward in the prevention and cure of infectious disease, chronic illness has become the nation's primary medical problem.

One of the principal causes of the increasing prevalence of chronic disease has been the great advances in medical and surgical care which have prevented death and produced an aging population. Two thousand years ago, the average length of life was 25 years; at the turn of the century, it was 49; today, it is 66. In 1900, 1 person in 25 was 65 years of age or older; it is estimated that in 1980, the ratio will be 1 in 10. The chances are now two out of three that a young man now starting his working life at the age of 18 will live to his retirement age of 65.

As people become older, their medical needs change, and they demand more medical service. In 1940, the 26.5 per cent of the nation's population over 45 required over half the nation's medical services. By 1980, it is expected that the number of persons over 45 will constitute nearly half of the population.

The incidence of chronic disease is definitely related to economic status. It develops most frequently among families of low income and, when it strikes, results in further reduced income. In the National Health Survey of 1936, chronic illness was found to exist nearly twice as much among persons on relief as those earning $3,000 a year or over. A more recent study in Illinois showed that 23 per cent of all public assistance recipients were chronic invalids. In Connecticut, the percentage was 20, and in New Jersey, 38 per cent of those receiving old age assistance are chronically ill.

As chronic disease is usually nonreportable, reliable statistics as to its extent are difficult to find. Most currently used figures spring from the National Health Survey of 1935-1936. In this survey conducted by the United States Public Health Service, 800,000 families in 83 cities and 23 rural areas of 19 states were studied. It found that there were some 23,000,000 persons in this country who are handicapped to some extent by disease, accident, maladjustment or war. Later reports, based on smaller samplings, however, have indicated that chronic disease is even more prevalent. In a recent survey in New Haven, Connecticut, conducted by the School of Public Health of the Yale University College of Medicine, it was found that 121 persons for each 1,000 of the population suffered from chronic illness, and that one-third of this number were totally disabled.

Although chronic disease is more frequently found in older persons, authorities state that 16 per cent of all persons with chronic diseases are under 25 years of age. The Yale study found the percentage to be 33.

As Dr. Ernest P. Boas, an authority on chronic diseases, pointed out in the New York Academy of Medicine's report on "Medicine and the Changing Order", there are but two chronic diseases, pulmonary tuberculosis and mental illness, in which their medical care has become an accepted community responsibility. For other chronic invalids, there is no well-planned and integrated service. They find refuge in general hospitals, convalescent homes, homes for the aged and the back bedrooms of relatives.

Much of the acute financial plight of both the municipal and voluntary hospitals results from the increasing numbers of the chronically ill who enter the hospitals and stay for long periods. Dr. Edward M. Bernecker, former Commissioner of Hospitals of the City of New York, reported 22.5 per cent of the general care beds in New York City municipal hospitals are occupied by patients with long term illnesses. The percentage in New York City voluntary hospitals is said to be about 20 per cent. In a study in Syracuse, New York, it was found that 84 per cent of 902 successive patients in medical wards were chronically ill.

It is agreed that a great many of the chronically ill must have general hospital care initially. Many, however, remain in the hospital purely because of the lack of any place to which they can go if they are discharged. Convalescent and nursing homes are totally inadequate to meet the need, and patients discharged to their homes, where there are no facilities for their care, frequently must be readmitted to the hospital.

One of the great needs is provision for total treatment of the chronically ill patient in terms of his whole problem. Many such patients cannot be rehabilitated to the extent of employability, but a great percentage can be rehabilitated to the point of sufficient self-care that they are able to live at home, requiring a minimum of aid from other members of the family.

Both the Veterans Administration and some civilian general hospital rehabilitation programs have demonstrated that rehabilitation to the point of self-care, and even to full or limited employment, is possible for many of the chronically ill who have been hospitalized for long periods. Yet, in most of our civilian hospitals, the patient receives no such services. Hospitals complain that the chronically ill are responsible for their crowding, but they do little to provide many with the training services that will permit them to leave the hospital.

In a study conducted recently in New York State on adult institutional care, one of the research staff asked an indigent old man suffering from heart disease why he didn't move into the county's excellent public home where he could receive good medical care and supervision. The man replied, "Of course I don't want to go to the county home; I'd get no assistance check from the county if I did. I don't care if I do need more attention, and don't get it here." He then looked the interviewer directly in the eye and said emphatically, "It's a poor man that doesn't have a little money in his pocket."

The almshouse, poor farm or county home in this country has been regarded traditionally by self-respecting individuals as "the end of the road." Its residents and their relatives long have borne the painful social stigma of destitution or pauperism. Years ago, and, unfortunately, still in some isolated instances, the county home was the dumping ground for all those who could not compete economically or socially with normal society. Its "inmates" consisted of homeless children, healthy indigents, the sick, the insane, the senile and the feeble-minded. They had but one common characteristic—they were destitute.

Today, such practices are recognized universally as being socially undesirable, and specialized institutions have been founded to meet the needs of the various groups who formerly lived in the county homes. Mothers' pensions, old age assistance, and other special aid programs provided by the Federal Social Security Act and state programs also have altered materially the population of public homes.

As a result, the function of the county home has changed, and today they are primarily homes for the aged and chronically ill.

More and more states are recognizing the changing need and function of the county

home, and are converting such institutions into public nursing homes for the infirm and chronically ill. Such a program has been under way in Illinois since 1945, and in the 19 county homes that have been converted, 60 per cent of the 1,250 beds are occupied by old age pension and blind assistance recipients. The average cost to the state for each of them is $60 per month, far less than it would cost to provide for their care in less satisfactory facilities.

As the Joint Committee of the American Medical Association, American Public Welfare Association, American Hospital Association and American Public Health Association have pointed out, county homes should be converted into public nursing homes only if their physical facilities are adequate, if they are within reasonable distance of general hospitals with which close medical relationships are maintained, and if the responsible authorities are prepared to meet minimum standards.

As pointed out in a New York State study, accessibility and privacy are two of the main factors to be taken into consideration in converting public homes into facilities for the chronically ill. Aged patients fear isolation, and want to be where their friends and relatives can visit them, and where they can shop, go to the movies and see friends. They want a place in which to keep their possessions, and to live, if possible, in a private room or a small dormitory.

Primary, however, among the needs of such persons is the opportunity to do something purposeful and constructive. The majority have worked steadily and industriously in a society that respects only the productive. The ending of ability to do gainful work is, for most, a tragedy; it symbolizes the end of independence and purpose in life.

Medicine has neglected to use one of the most valuable tools in the management of the chronically ill and aged. All who have gone through an institution have noted the apathy and hopelessness of the residents. There are always a few, however, who are bright and active. They are the patients who have volunteered or have been assigned to tasks within their physical capacities.

The use of selective placement, whereby the physical capacities of the individual are matched against the physical demands of a job, can be used in an institution as well as in industry. Even though their disabilities may be severe, the great majority of the residents of public homes can do some task about the home. For some, it may be only simple housekeeping assistance; others have the ability and experience to direct various operations within the home.

Such jobs should carry regular compensation, even though it be small, for there is no greater satisfaction than that which comes through earning.

In many homes it would be possible to provide sheltered workshop facilities in which residents could do either industrial home work or necessary services for the community operating the home. Like work for the homebound, such plans require both imagination and close supervision to prevent exploitation, but they would pay tremendous dividends by providing a purpose in life for many patients.

With the introduction of rehabilitation programs in general hospitals, increased facilities for convalescent care and home care programs of medical, social, visiting nurse and visiting housekeeper services, many of the aged and chronically ill will not need to seek admittance to public homes. Many present residents could be restored either to employment or self-care with the introduction of dynamic rehabilitation programs.

If the aged and chronically ill are to have the comfort, security, dignity and companionship that should be the heritage of every older person, public homes must pro-

vide them with cheerful, attractive surroundings, as much privacy as possible, a place for their belongings, opportunities for recreation and social activity and a chance to do something productive.

With the growing incidence of disability due to chronic disease, medicine must assume a great deal of the leadership in the responsibility of society which Dr. Edward L. Bortz, so aptly summarized when he said, "The society which fosters research to save human life cannot escape the responsibility for the life thus extended. It is for science not only to add years to life, but, more important, to add life to the years."

HOWARD A. RUSK, M.D.

EDITOR'S NOTE. Dr. Rusk is Professor and Chairman, Department of Rehabilitation and Physical Medicine, New York University College of Medicine. He is also Consultant in medical rehabilitation to (1) Medical Director, Veterans Administration, (2) Secretariat of United Nations, and (3) Department of Hospitals, City of New York. Dr. Rusk is Associate Editor, New York *Times*.

Floral Eponym

ZOLLIKOFERIA

ZOLLIKOFER, KASPER (CASPAR) TOBIAS

In Kelly's Cyclopedia of American Medical Biography under Zollickoffer, William, (1793-1853) it is stated, "It is said the Zollikoferia, one of the *asteraceae*, was named after him by De Candolle." William Zollickoffer, a graduate of the University of Maryland, and lecturer on medical botany, materia medica and therapeutics at that institution, was one of the first to write a materia medica of the United States (1819). "His death took place in Newmarket, Virginia, in 1895" (sic). I have carried this reference around with me to various libraries over the country without gaining any additional information. As a last resort I wrote to S. F. Blake, Senior Botanist, U.S. Department of Agriculture. He writes me as follows: "The guarded suggestion in Kelly's Encyclopedia of Medical Biography that the American physician William Zollickoffer had a genus of plants named for him is certainly based on error. The only generic name with a similar spelling is Zollikoferia. This was first used in 1825 by Nees to rename a genus Peltidium of the Compositae which had been published in 1820 by one Zollikofer of Altenklingen, Senatus judicatorii Pagi St. Gallensis membro. This name proved to be a synonym, so in 1838 De Candolle made a new genus of the same name dedicated to the same man, C. T. Zollikofer Sancto-Gallensi botanico."

According to Pritzel, Kaspar (or Caspar) Tobias Zollikofer was an "Appellationsrath" (evidently an official of a court of appeals) in St. Gallen, Switzerland. He published a small work on the Swiss flora in 1828."

SOME PRACTICAL PUBLIC HEALTH PROBLEMS IN VIRGINIA*

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In the last forty years Virginia has made splendid progress in the field of Public Health. In the early part of this century general sanitation was poor, maternal and infant mortality rates were high, and many communicable diseases were a source of great concern to the early health worker. Hookworm, malaria and typhoid fever called for vigorous control efforts. Smallpox and diphtheria were present consistently in the population and were major causes of death. The tuberculosis rate of that period would today be considered a disgrace to the state.

Through the efforts of the first workers, sanitation was greatly improved, bringing under control hookworm, typhoid fever and malaria. Through education of the public; through legislation; and with the use of immunological agents, smallpox and diphtheria no longer are a menace. With the building of public sanatoria and the inauguration of the tuberculosis clinic service, reduction in the tuberculosis rate was achieved. Through intensive efforts directed toward improving maternal and child health, infant and maternal mortality have been reduced greatly.

Great as these accomplishments are, many problems remain for the health workers of the State. An attempt will be made to discuss the more important of these in a somewhat detailed manner—others will merely be mentioned.

The need for greater coordination of all governmental health work, while not of sufficient seriousness to be considered a problem in itself, is a subject worthy of discussion. Jurisdictional and geographic lines in government are necessary, but complete independence and difference of policies in Health Departments functioning within these areas are difficult for the citizen to understand. One county functions under one set of sanitation ordinances, an adjacent city another; the resultant confusion in a metropolitan area is often detrimental to the total health program. There have been many suggested remedies: 1. Voluntary cooperation by all health departments in a metropolitan area. A splendid example of this is the greater metropolitan health officers conference made up of the directors of the Health Departments of the Virginia and Maryland counties and cities adjacent to the District of Columbia. 2. Planned coordination, i. e., more complete inclusion of the cities in the statewide public health program. This would necessitate a give and take attitude on the part of both the state and cities. It would require inclusion of the cities in program planning and policy making conferences. It would call for a willingness on the part of the cities to relinquish certain prerogatives. It would require that the state allow greater authority to the local governing bodies, and, last, it would entail supervision over municipal as well as county departments. 3. Official consolidation, i. e., joint city and county units. These have functioned in a most satisfactory manner in many areas, notably the city of Charlottesville and Albemarle county, Virginia; Birmingham and Jefferson county, Alabama; Louisville and Jefferson county in Kentucky. Admittedly all of these plans have advantages and disadvantages. Ultimately, a greater coordination of the work of health agencies in metropolitan areas will be a necessity, if confusion is to be avoided and the over-all health program advanced.

If due and serious consideration is given to the above mentioned difference in policies between local health departments, a solution to one of the most confusing and in a sense amusing public health problems might be effected. The lack of uniformity that often exists in public health sanitation ordinances is a serious source of confusion to the public. Prior to the last session of the legislature, at which time three important uniform and state-wide sanitation laws were promulgated, the counties and cities worked under many different food sanitation and trailer camp ordinances. This new legislation was a great step forward, but at present lack of uniformity in the sanitation ordinances governing the production of milk and those covering meat inspection not only cause misunderstanding, but

*Read before the Health Officers Section, League of Virginia Municipalities, at Old Point, Va., 28 September, 1948.

also impedes the progress of the programs directed toward sanitary control of milk and meat products. I can understand the feeling of the dairyman, who wishes to sell in two or more markets, complying with two or three different standards and being inspected by two or three different inspectors working under different regulations and with varying ideas of interpretation. The standardization of milk ordinances and the elimination of duplication of inspection is a necessity. This, if accomplished, should be under local enforcement under the supervision of the State Health Department.

Two major cities in the state bear the brunt of the inspectional service of local plants slaughtering meat to be processed for sale within the state. These plants do not function under federal inspection, and, in consequence, are inspected by the local health departments from local tax funds. These inspections are made under two similar but slightly different ordinances. Further, meat produced in many local areas is not under any sanitary inspectional service. It is obvious that there is a need for state-wide meat inspectional legislation.

If uniform ordinances are to be considered it is suggested that these ordinances be prepared following joint conference between local and state health department sanitarians. Through such consultative conferences the experiences of those who had been working under various ordinances could be made of use. Such conferences would assure the greatest spirit of cooperation from local areas later to be charged with enforcement.

Since the beginning of the 20th century when the average span of life was 49.2 years, the span has increased approximately 18 years, and today the average life expectancy is sixty-eight years. This record is unequaled in history and may never again be reached. Now, of the five leading causes of death, four—heart disease, cancer, cerebral hemorrhage and nephritis—are diseases of middle life and old age. The rapid growth of our population beyond median life is causing a corresponding increase in chronic and degenerative diseases, which in turn cause increases in disability and mental impairment.

Many thinking public health authorities view this condition with gravity, realizing that this spectacular gain in longevity, which, while a public health accomplishment, is a growing problem. Public health must meet a new challenge, and adapt existing services, and provide new and additional services, to meet the needs of the aged. Preventive measures aimed at these newer problems must be developed, such as: health education, diagnostic clinics, adequate medical and nursing care, including sufficient convalescent type beds to relieve congestion in general hospitals. The Richmond Health Division of the Community Council of the Community Chest has decided to conduct a long range study of the medical care problems of the aged. A pilot committee has been appointed to coordinate this study which will begin functioning this fall.

Within recent years the attention of Public Health has been directed toward medical care, it being realized that the provision of adequate medical services for the indigent of the community is a public health problem if the total health of the community is to keep pace with increasing medical knowledge. Medical care is more than the mere provision of hospitalization for the needy. Its scope includes domiciliary care including both medical and nursing service, diagnostic clinics, obstetrical care, adequate sanitoria beds for tuberculosis and mental patients, sufficient convalescent beds, and beds for the chronically diseased and terminal patients. Government responsibility for the provision of adequate medical services for the indigent is now generally accepted. However, there is as yet no uniformity of opinion as to the exact governmental agency upon whom to affix the responsibility. In some states Health Departments are charged with medical care; in others, Welfare Departments. In some states and localities there is a division of responsibility; in others a duplication. The State of Maryland has developed a comprehensive and excellent program under the Health Department. Baltimore City is midway in a long range detailed study of the medical care problem. Last year the Health Department of the City of Richmond, working with and through the Health Division of the Community Council of the Community Chest, embarked on a study of medical care. Committees were appointed to study the following aspects: Medical care in the home, hospitalization, chronic and convalescent care, outpatient care, and rehabilitation. As a result of the work of the committee on medical care in the home, the Health Department has completely revised its system of domiciliary care. The new plan calls for three full-time fellows in the general practice of medicine, under the supervision of a part-time physi-

cian (who must be a diplomate of the American Board of Internal Medicine). It also calls for a general practice clinic to care for the non-hospitalized case, and for close coordination between the fellows in medicine and the Public Health and Instructive Visiting Nurses of the city. The program, while a joint project with the Department of Medicine of the Medical College of Virginia, is under the direction of the official health agency. It is hoped that through this change the number of hospital days per patient will be reduced, as well as the number of hospital admissions. A detailed report of this program will be published by the Director of the Health Department at a later date.

More and more health agencies are developing plans for housing programs. Housing, as related to health, is not a new problem. It is one that is centuries old. In England in the early 18th Century public attention was directed by medical men to the squalid living conditions of the poor. In 1837, Dr. T. Southward Smith, of the London Fever Hospital, published "A report on the physical causes of sickness and mortality to which the poor are particularly exposed, and which are capable of prevention by sanitary measures". He vividly and aptly described the squalor and filth existing in over-crowded tenements. The medical histories of Europe covering the 18th and 19th centuries are replete with articles on the subject. However, it was not until the second decade of this century that the modern concept of housing as a public health function came into being. Under this new concept the sanitation and health aspects of housing are considered from two viewpoints—the first, commonly referred to as "Slum Clearance," may be considered as the elimination of blighted housing areas which are hopelessly beyond correction. Some authorities consider this as a curative approach in that it requires condemnation and total eradication. While costly in the economic sense, it is often necessary, and is an integral part of the solution of the housing problem. However, it is just a part, not the whole of a good housing program. The more recent programs call for long range planning by all interested agencies and include in addition to slum clearance two essential adjuncts. These may be called preventive programs, and consist of remedial measures to improve existing structures. The first consists of repairs to existing structures to prevent them from becoming blighted; and the second calls for improvement of sub-standard houses in order that they may be brought up to the acceptable minimal standard. An effective housing program requires the passage of adequate ordinances and regulations by government. No community should hastily seek such legislation. First, the community's problem should be studied in detail and a long range program developed. Such a study by a committee or group composed of representatives of health, welfare, real estate boards, planning boards or commissions, architects, civic groups and members of the legislative body of the community can develop a program that will be adequate and satisfactory for the community's needs.

Some of the practical public health problems in Virginia have been discussed in more or less detail. However, there are many health problems existing which cannot be described in the time alloted for this paper. Recent impetus has been given to the control of cancer and heart disease. While this interest has been laudable, it has been directed chiefly toward education of the laity and toward research. Much remains to be done before these two major causes of death can be brought under control. We must consider these problems not only from the medical viewpoint, but also from the socio-economic point of view, particularly as these affect the middle and old age groups of the population, and are so intimately linked with economic security.

Another group of diseases still presenting acute problems, despite magnificent public and governmental support, are tuberculosis, syphilis and the lesser venereal diseases. Despite intensive control measures, these are still major public health problems and call for continued long range control programs.

A splendid beginning has been made in the field of industrial health, yet there remains much to be done—the health of the worker must be safeguarded. This necessitates larger governmental appropriations and intensification of the existing program.

In conclusion, an attempt has been made to describe or mention some of the existing public health problems. The paper has been written with the realization that achievements in the field of public health are best accomplished by thorough study and planning not only on the part of the health agency, but in cooperation with an informed citizenry, and through the continued application of long term control measures.

THE USE OF THE ANTIHISTAMINE DRUGS IN DERMATOLOGY*

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Introduction: The purpose of this paper is not to present any statistical analysis of the number of cases studied. It is desired to present only observations and impressions obtained over a period of several years. No attempt will be made to separate the individual antihistamine drugs according to their manufacturers. Suffice it to say that practically all of the drugs were used with the exception of some of the newer ones. The results to date correspond fairly closely with other workers.

Experimental Work

Experimentally it was attempted to see if itching could be produced in normal individuals and its relief brought about by the topical application of these drugs.

The experiment was carried out in the following manner: To one arm was applied an ointment containing the antihistamine drug. To the other was applied only the ointment base. By using a 1-10,000 solution of histamine with the scratch-test method, itching could not be produced on the arm containing the antihistamine drug. A very definite itching did occur on the arm containing only the drug base. Wheals occurred on both arms with no appreciable difference in their size nor disappearing time. It should be noted that Feinberg and others, following the intravenous injection of benadryl, were not able to produce wheals with intradermal injections of histamine. It is not considered that these two experiments contradict each other since one was performed by an intravenous method and the other by a topical one.

Antihistamine Drugs by Mouth

The following groups of cases have been studied following the oral administration of 200 to 400 mgs. daily of these various drugs:

(1) Urticaria (50 cases)

In acute urticaria (usually due to food) which, of course, is transient, a very marked and prompt relief of symptoms can be obtained. In chronic urticaria a relief of symptoms usually occurred but it varied from slight to marked. This result was frequently transitory. The symptoms recurred when the drug was discontinued.

(2) In atopic dermatitis (15 cases)

A small percentage of the cases noted some immediate improvement, some a prolonged moderate improvement, but in no case was the course of the disease influenced.

(3) Pruritus ani (11 cases)

In the group of pruritus ani it can be stated that the results were unsatisfactory.

(4) In poison ivy (25 cases)

It is felt that with the possible exception of urticaria, the antihistamine drugs here have their most important place in dermatology. The symptoms were rather markedly decreased and the duration of the disease shortened.

The Clinical Use of the Antihistamine Ointments

(1) In urticaria (8 cases)

There was no relief with the topical application in contrast to the parenteral administration.

(2) Atopic dermatitis (11 cases)

In the majority of the acute cases of atopic dermatitis a moderate relief from itching was noted as long as the ointment was used. In the chronic cases the results were practically nil. The clinical course of the disease was not affected.

(3) Pruritus ani (6 cases)

There was not any response in pruritus ani.

(4) Poison ivy (28 cases)

All cases of poison ivy had immediate relief three to four hours after treatment was instituted. In the majority of the cases repeated applications of the ointment every three to four hours controlled itching indefinitely. The ointments did not have

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any appreciable effect on the duration, severity, or course of the disease.

Reactions

Many reactions, such as sedation, hypnosis, nausea and vomiting, dizziness, vertigo, etc., have been reported from the parenteral administration.

In three cases treated with the ointments an acute vesicular eruption appeared at their site of application within three to seven days. In all these cases positive patch tests to the ointments containing the antihistamine drug were obtained, but negative patch tests to the ointment bases. By personal communication to the manufacturing chemist the information was obtained that these ointments only contained the antihistamine drug and their base. This, then, would tend to indicate that the antihistamine drug itself might be capable of producing an allergic reaction.

Details of only one case will be presented:

Mrs. M. G. had been treated over a period of four years by one of us (E.E.B.) for a very definite neurodermatitis on the back of her hand. This patient had repeatedly had domestic difficulties and each exacerbation of her condition could be definitely traced to each family disturbance, which were many. Approximately six months ago she presented the same picture again, namely, a dry, scaly patch of eczema on the back of the right hand, approximately 2 in. in diameter. Two weeks after the use of an antihistamine ointment she developed a dermatitis venenata. The drug was discontinued and after the acute eruption faded a patch-test was done with the drug. The test was strongly positive, but negative to the ointment base. Unfortunately, and thoughtlessly, she was later given the same antihistamine drug by mouth. This put her in the hospital with generalized acute eczema.

Withdrawal Symptoms (2 cases)

Two cases of pityriasis rosea were treated with an antihistamine drug for 3 weeks and developed weakness, loss of pep, mental depression, loss of appetite, insomnia, and fatigue when the drug was discontinued. These withdrawal effects lasted about 6 weeks and terminated after large doses of thiamin hydrochloride were gives empirically.

CONCLUSIONS

A series of cases, including urticaria, atopic dermatitis, pruritus ani, and poison ivy, have been treated with the antihistamine drugs both parenterally and topically. It is our feeling that parenteral administration is superior. It has also been observed that the topical application of the drugs in addition to producing burning and stinging at the site of application may also produce an allergic reaction. With this observation in mind, the question comes up: Might not the topical applications in the future be placed in the same category as the sulfonamides and penicillin are at the present time? It is undoubtedly true that most dermatologists feel that they are contraindicated, the reason being that their use is so important internally that one should not run the risk of possibly sensitizing individuals by their local application. It should, however, be pointed out that present reports do not prove this. In the early days of sulfonamides and penicillin this was not considered either.

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DISCUSSION

DR. RAYMOND KIMBROUGH, Richmond: Calling attention to the probable increased sensitizing effect of the local use of the antihistamine drugs as compared to their internal use is timely and appears to be worth more study. It should alert others to keep records, or to set up experiments, to verify or disprove this point.

The general pattern of action of these drugs includes local anesthesia, varying sedative effects, and marked different individual responses with regard to effectiveness, side actions, and dosage required. These marked different individual responses may depend upon the severity of the disease, the stage of the disease, the presence of other diseases as well as other physical and chemical factors. Also, histamine is not the only factor in allergic diseases; therefore, the antihistamine drugs can be only a part of the solution to dermatologic and other allergy problems, even though they appear to be able to block all histamine actions except that of gastric secretion.

The large number of antihistamine drugs available in the recent past has been amazing. Most claims for efficiency, and of lack of undesirable side actions, have not been demonstrated by uniform experiment.

When an allergy problem arises now, and the doctor turns his thinking to the use of antihistamine drugs, you can likely hear him murmur *"E pluribus unum"*.

DR. THOMAS W. MURRELL, Richmond: The wisest doctor I have ever known once said to me that the control of itching is a failure as compared to the control of pain.

This is true and is the reason for the great hope that came with the introduction of the antihistamines into therapy. There is a constant procession of new antihistamines brought to us under a multiple of trade names. They are apparently chemicals of a different structure but relatively the same group, and they have varying results. A great deal of work has been done[1] which proves that the antihistamine drugs locally applied do block off the penetration of histamine into the cells of the skin and prevent wheal formation with the consequent relief of itching, and in some cases the results have been nothing less than dramatic.

It is a common thing in dermatology to see a patient with an eczematoid condition. Now the word, eczema, defines a syndrome composed of five symptoms. These are redness, itching, thickening, moisture and scaling. Under proper therapy it not infrequently happens that the redness, thickening, moisture and scaling disappear but the symptom of itching remains. This is particularly true in the syndrome of pruritus ani. Now, if itching remains, trauma follows "as the night the day" and trauma will bring back into being the original syndrome. Consequently, anything which will control the itching, which is a residual symptom, will be a blessing to obtain permanency of results. It is rather obvious that in the use of the antihistamines we are treating a result and not a cause. If the antihistamines are used, they should be used as a part of a treatment. For instance, the relief of itching of an urticaria does not in any way meet the problem of removing the offending food. The use of the new remedy in no way negatives the standard approach of things previously done and of proven value, yet in themselves not controlling itching, which is the hope of the antihistamines.

DR. OSCAR SWINEFORD, JR., Charlottesville: Dr. Barksdale and his associates have made several points in their paper which I might summarize briefly. First, they felt that the itching incident to the use of histamine was reduced by antihistamine drugs. Others have found that not only itching but whealing have been interfered with by the topical use of those drugs.

Second, in four of their patients they elicited typical signs of contact allergy by the use of patch tests in patients who had become sensitized after using these drugs internally. Third, they described a case which had become sensitized, apparently, by topical application.

Fourth, they advised against the topical use of these drugs. It is well known that the topical application of drugs to diseased skin is more likely to sensitize than when applied to normal skin.

As suggested by Dr. Kimbrough, the so-called antihistamine drugs have other effects than interference with the histamine effect on cells. These drugs are effective local anesthetics. Pyribenzamine and antistine, for example have local-anesthetic potencies about twice that of procaine. In addition, they are good sedatives. Many people use them at night, instead of the barbiturates.

These drugs are related chemically to some of the local anesthetics. Inasmuch as the local anesthetics are potent sensitizers, it is rather surprising that more sensitization to the antihistamine drugs has not been reported. We have had one case in which we thought periarteritis nodosa followed the use of one of the antihistamine drugs.

I should like to emphasize that the antihistamine drugs do not supplant the older sympathomimetic drugs, ephedrine and adrenalin. They have different points of action. The older drugs tend to reverse the allergic reactions after they have formed; the antihistamine drugs tend to prevent the action of histamine. They block the action, when histamine is formed, in somewhat the same way that para-aminobenzoic acid blocks the action of sulfonamides.

We rarely see satisfactory relief from these drugs in severe atopic dermatitis, severe hay fever, or any other severe allergic reaction. In general, we have been somewhat disappointed in them. We do find that the sympathomimetic amines, ephedrine and adrenalin, are effective often when the antihistamine drugs are not.

When there are side reactions to one of the compounds, try all of them until a suitable one is found. The sympathomimetic drugs can be used during the day, when excitement and nervousness are not so noticeable, and the antihistamine drugs at night.

Attention should be called to the fact that the antihistamine drugs, when effective at all, are effective only in the atopic or the anaphylactic type of allergy. They may control itching by their sedative and local anesthetic effects. The tuberculin type of allergy is not affected by these drugs.

DR. BARKSDALE, closing the discussion: We would very much like to thank the discussers. I am sure that you gentlemen in the audience have obtained more information from them than you have or will from either of us. There are a few points that might be worth re-emphasizing. We have noticed that a combination of two or more drugs by mouth in some cases seems to be better than one alone.

I do feel that the topical application of the antihistamine drugs is not without untoward effect. We have herein reported several cases with skin reactions which appear to be of a definite allergic nature.

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BACTERIAL ENDOCARDITIS: ITS EARLY DIAGNOSIS AND MODERN TREATMENT*

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The interest in bacterial endocarditis has been greatly stimulated, and the importance of an early and accurate diagnosis has greatly increased since the advent of therapy with the sulfonamides and the anti-biotics, chiefly penicillin and streptomycin. Whereas, in the past these types of diseases were almost invariably fatal, the outlook now with modern therapy is much more hopeful.

Bacterial endocarditis was recognized by the early bacteriologists and by 1900 all of the commoner types had been described. Schottmuller and Libman were responsible for a great deal of the earlier knowledge of subacute bacterial endocarditis. Lohlein and Baehr described the incidence and specific character of the glomerulo-nephritis which often accompanies this disease.

The terms acute and subacute bacterial endocarditis are in general use but these terms are somewhat arbitrary, the term acute being applied if the patient either dies or recovers within two months. This terminology will almost surely be changed because of the effect of the newer methods of treatment. It would seem more accurate to apply the diagnosis of acute staphylococcic endocarditis in cases caused by staphylococcus, or subacute streptococcus viridans in cases caused by streptococcus viridans.

ACUTE BACTERIAL ENDOCARDITIS

Etiology: A great number of organisms have been described as causing acute bacterial endocarditis; however, very close to all of the cases are caused by one of the following organisms, and the relative frequency in a report of 48 autopsied cases from Boston was as follows: Streptococcus hemolyticus 43.6%, staphylococcus aureus 22.8%, bacillus coli communis 10.5%, pneumonococcus 8.4%, gonococcus 4.2% and meningococcus 4.2%.

Age: It is most frequent in the fifth decade.

Sex: About 73% males to 27% females.

There is apparently some difference in opinion concerning the incidence of acute bacterial endocarditis in hearts not previously damaged and in chronic valvular heart disease. Dock feels that although fibrotic changes favor such an infection, clinically more cases occur in patients without previous heart disease.

Pathology: The most important pathological findings in acute bacterial endocarditis are the vegetations usually found on the valves of the left side of the heart but at times extending to the nearby endocardium. The vegetations are sometimes as large as beans or peas and are composed of masses of fibrin, bacteria, and leukocytes. An occasional mycotic aneurysm is formed and ulceration with rupture of the valve leaflets and chordae tendineae is not uncommon.

Symptoms: Acute bacterial endocarditis most often occurs in the course of some other co-existing disease, for example, pneumonia or septicemia due to staphylococcus infection, and the symptoms at first are those of severe infection consisting of septic type of fever, sweating, chills, prostration, and delirium. Until the advent of modern medication the patient usually went quickly downhill, becoming rapidly extremely ill. If the patient lived as long as ten to fourteen days, signs and symptoms due to emboli breaking off from the endocardium and lodging in various arteries or veins usually developed.

Signs: These patients are often extremely ill without any definite signs to help determine the diagnosis. Until localizing embolic phenomena develop the diagnosis is often overlooked and discovered at the postmortem table. Murmurs, either systolic or diastolic, existing previously and becoming louder or developing for the first time and, perhaps, increasing during the course of the disease are important. There is often a leukocytosis of 20,000 to 30,000 with a high polymorphonuclear per cent, a secondary type of anemia, and, finally, a positive blood culture. The complication of emboli and anemia have been noted. Heart failure occasionally occurs.

In the past the *treatment* has been primarily supportive and the outcome was most often fatal. The course and the prognosis of the disease has been entirely changed due to medication with the

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sulfonamides and antibiotics, although as yet we have very little definite data in the form of statistics. The treatment should be started as soon as the diagnosis is suspected, and not delayed until it is proven. Details of treatment will be discussed along with the treatment of subacute bacterial endocarditis.

Case I.—L. R. K., white male, aged 39, occupation, tobacconist. The patient had been in good health generally until his present illness. There was no history of previous rheumatic or luetic heart disease, nor was there any physical finding suggestive of valvular heart disease until the beginning of his present illness.

The present illness started about May 30, 1936, while the patient was riding on a train; he felt tired and weak. His family physician, Dr. B. L. Phillips thought the patient had grippe-like infection. The patient failed to improve, his weakness increased, and he began to run a septic temperature. He sweated a great deal and was somewhat nervous.

The physical examination on June 5, revealed a very ill patient who was somewhat toxic. There were questionable petechiae in the lower conjunctival portion of the left eye lid. The heart appeared only slightly enlarged. At the apex the first sound was replaced by a murmur; the second sound was rather sharp. At the base the first sound was practically entirely replaced by a murmur; the second sound faded off into a murmur. A slight systolic and a blowing early diastolic murmur could be heard with their maximum intensity in the second interspace to the right of the sternum. At the apex there was a rather rough and loud systolic murmur which had a suggestive presystolic phase and there was also a late diastolic murmur. The spleen could not be felt. Temperature was 101; pulse was 120.

Six days later the patient's temperature was 101.4; pulse was 114. All the murmurs were more marked and definitely louder and there was a definite gallop rhythm present. There were also questionable petechiae in the right eye. The patient seemed very ill and toxic. His breathing had increased and there was some dullness at both bases, and moist rales could be heard in addition to the crepitant rales. The patient was having jerking motions of his arms from time to time; however, he did not have definite convulsions.

Repeated blood cultures in our laboratory were positive for staphylococcus albus and the cultures from the State laboratory were positive also.

This case presents a rather typical but unusual case of acute bacterial endocarditis due to staphylococcus albus occurring without any known preceding disease or known mode of entry. This case was seen during the summer of 1936; at this time the use of the sulfonamides had not been proven to be of any value, nor had penicillin or the other anti-biotics been introduced. The patient ran a rather down hill course and died within a few days after my last visit. This case was presented to show the hopelessness of the situation at that time. Although the fatality rate in acute bacterial endocarditis is still high even with our present methods of treatment, it is definitely better than it was.

SUBACUTE BACTERIAL ENDOCARDITIS

Subacute bacterial endocarditis occurs much more frequently than acute bacterial endocarditis. White and Jones state that it occurs in one to two per cent of all cardiac patients in New England, and in about five per cent of rheumatic heart disease. In congenital heart disease as a whole the incidence is about seven to eight per cent; however, in certain defects, for example, the patent ductus arteriosus, interventricular septal defects, and bicuspid aortic valves the incidence is above 25 per cent.

Subacute bacterial endocarditis very rarely occurs in a normal heart. In the vast majority of cases, the heart has been damaged by a rheumatic fever type of infection or is the seat of a congenital defect. Very rarely subacute bacterial endocarditis is super-imposed on an aortic valve damaged by syphilitic infection.

Sex: Males predominate about three to two despite the fact that females have a higher incidence of mitral stenosis. This lends support to the opinion that cases of marked mitral stenosis infrequently develop subacute bacterial endocarditis.

Age: In Kelson and White's series of 250 cases the greatest incidence was between fifteen and thirty years.

Pathology: The chief findings of pathological interest in the heart are the vegetations on the endocardium. These consist of masses of fibrin, leukocytes, erythrocytes, bacteria and products of bacterial decomposition. These vegetations are not usually as large as those described above in acute bacterial endocarditis but are larger than the vegetation of rheumatic fever in which no bacteria are

found. The vegetations may occur on the endocardium or endothelium of various congenital defects. Despite the fact that occasionally infected emboli and thrombi may be found in the blood vessels of the valves, it is probable that the bacteria do not as a rule start their damage in this way but are rather deposited directly from the systemic blood stream on the damaged valve surface. The vegetations may spread along the endocardium adjoining the valves and at times the chordae tendineae may rupture. Pericarditis is rare. Bracht and Wachter in 1909 reported a somewhat typical type of myocarditis.

Symptoms: In contrast to the rather dramatic symptoms of acute bacterial endocarditis the onset of acute bacterial endocarditis is usually gradual. A person with a congenital or chronic rheumatic heart disease may gradually begin to feel bad. They often think that they have had a "common cold" which continues to hang on or maybe a "grippe-like" infection from which they fail to recover. There is often a gradual loss of weight, a low grade of fever, loss of appetite and general weakness. The course of the disease varies but is usually slow and formerly was progressive. The above mentioned symptoms increase, a severe anemia develops, the temperature as a rule becomes swinging and septic in type. Finally, the symptoms of emboli occur, causing local pain and other localizing symptoms such as renal infarction with renal pain, frequency and dysuria, or cerebral emboli may cause hemiplegia or coma followed in a short time by death. The cerebral signs and symptoms may be the first ones to cause the patient to see his physician. A certain number of these cases will develop congestive heart failure with severe dyspnea, orthopnea, and upper abdominal pain.

Signs: The signs of this disease are more characteristic than the symptoms but often a given case will not present all the important signs. These signs are fever, a peculiar pallor of the skin called "cafe au lait" by Libman, enlarged spleen, petechial hemorrhages at various points, clubbing of the fingers, evidence of rheumatic valvular heart disease or congenital heart disease and bcuts of hematuria, and, finally, the rather rapid development of a severe anemia. Osler's nodes, first described by Muller, occasionally occur. Clubbing of the fingers is found in about three-fourths of the cases.

Enlargement of the spleen is an important sign and should always be sought for. The laboratory is of help in revealing the anemia which is often severe with perhaps 3 to 3½ millions red blood corpuscles and 50 per cent hemoglobin, and, secondly, and most important, in finding the offending organism—usually the streptococcus viridans —in the blood culture. The urinalysis reveals red blood corpuscles. The presence of a murmur is almost always noticed and should be carefully searched for. Without a murmur the diagnosis must be made with caution. A bicuspid aortic valve, however, rarely shows murmurs until late.

Case II.—J. R. F., white male, aged 21, first seen by me 1-10-45. The chief complaint was fatigue and headache for the past year, worse for the past two or three weeks.

Present Illness: The patient was turned down by the Army in 1943 because of a "leaking heart". The patient had rather definite migratory polyarthritis lasting four or five months, occurring seven to eight years ago. He also had chorea.

It was felt that this patient had chronic rheumatic heart disease with definite aortic regurgitation and mitral regurgitation and probable mitral stenosis with a tendency towards hypertension. I was uncertain as to whether the temperature and rapid increased sedimentation rate and loss of weight were due to reactivity of rheumatic infection, or due to a subacute bacterial endocarditis, but favored the latter. Electrocardiographic findings at this time were normal.

The patient failed to cooperate with either Dr. W. F. Cavedo or myself. The next thing we knew of this patient was when he was admitted to the Grace Hospital on Nov. 9, 1945. He came in with a chief complaint of inability to walk, stating that he was suddenly taken ill about eight weeks previously. He had continued to have pains in his hips and legs which he described as of a rheumatoid type and which migrated from joint to joint. The physical examination of his heart was essentially the same as before. There was some atrophy of the muscles of his legs but there was no evidence of definite joint involvement. The spleen was not felt; no evidence of congestive failure.

The temperature on admission was 102; pulse 80. The sedimentation rate was very definitely elevated and the patient had a very definite leucocytosis. This patient responded fairly well to salicylates by mouth and again it was thought that the diagnosis rested between an acute flare-up of rheumatic

fever and subacute bacterial endocarditis. At this time I favored the diagnosis of acute rheumatic fever. However, on the fifteenth day after admission he suddenly had a convulsion and became unconscious and never regained consciousness, his temperature and pulse going steadily up and the patient made a lethal exodus on the nineteenth day after admission.

I had Dr. James Asa Shield see the patient in consultation and he felt that neurologically the patient had an embolus of the left middle cerebral artery. We both felt that this was caused by an embolus connected with subacute bacterial endocarditis.

The post-mortem examination confirmed the diagnosis of subacute bacterial endocarditis.

This case brings out several important points: first, if we had been able to make this patient cooperate better and gotten repeated blood cultures on him when he was first seen in January, 1945, we could have established a diagnosis of subacute bacterial endocarditis at that time; however, neither Dr. Cavedo nor I could make this patient cooperate. Secondly, on the patient's admission to the hospital in November his joint symptoms led us to believe at first that he had a recurrent rheumatic fever infection. A blood culture should have been obtained immediately; however, this was not done until several days after admission. Four positive blood cultures were obtained showing an unidentified type of streptococcus, but unfortunately these were not reported until after the patient had had his cerebral accident, hence penicillin was not started. In going back over this case, it would, of course have been much wiser to have insisted that the patient go into the hospital when he was first seen and to have then started him on penicillin had we been able to confirm the diagnosis of subacute bacterial endocarditis.

Case III.—Mrs. E.F.L., white woman, aged 38; seen first November 7, 1947. The patient came in with the chief complaint of pain, fever, nausea, cough, and pain about her heart, duration six months. This patient did not remember any definite joint pains as a child; however, she stated that she had tonsillitis and sore throat most all of her life; she also had had a few nose bleeds. She had had known heart trouble for the past seventeen years. The patient's family doctor had given her penicillin off and on for the past several months and she has noticed that if she goes without penicillin for three or four days she will run an elevation of temperature up to 103, and then, if she takes penicillin, in twenty-four hours time her temperature will become normal. She has tried this on repeated occasions.

This patient was in Sheltering Arms Hospital for two weeks under observation six months before I saw her and the diagnosis of subacute bacterial endocarditis was suspected but not proven.

Blood culture on 11-14-47 showed streptococcus grown in broth; plates made no growth. This was repeated on 12-29 and a similar report was obtained.

In view of the above data a definite diagnosis of subacute bacterial endocarditis caused by streptococcus of undetermined type was made, this being engrafted upon a chronic rheumatic heart disease with aortic regurgitation and stenosis and mitral stenosis and regurgitation, and a possible congenital heart disease with interventricular septal defect was considered.

This patient was admitted to the Sheltering Arms Hospital and her family doctor, Dr. E. E. Haddock, treated her with pencillin 50,000 units every 3 hours. This patient completed her sixth week of treatment and so far as we can tell she has been cured and has remained so. She will, of course, be followed along carefully with frequent cultures, white counts and sedimentation rates.

Case IV.—Mrs. G. B. S., white woman, age 36. This patient was first admitted to the Grace Hospital on May 16, 1947. She stated that she had had a tooth pulled in March, that is, about seven weeks before. Since that time she had been having chills with fever, joint pains, headache and general weakness. She stated that her doctor told her when she was 9 years old that she had a "leaking heart" and must rest a lot. There was no history of rheumatic fever manifestations.

The patient's temperature, pulse, and respiration remained within the limits of normal during her eleven day course in the hospital. She showed a definite anemia. Several blood cultures were negative; one blood culture collected on 5-15-47 showed hemolytic streptococcus. On this admission the patient was given 3,200,000 units of penicillin. The final diagnosis was anemia secondary to unknown cause.

This patient was readmitted to the Grace Hospital on June 20, 1947, and during this admission I saw her in consultation with her family physician, Dr. W. Richard Morton.

Physical Examination: The blood pressure was 100/60 in the left arm and 120/70 in the right arm. The aortic second sound was very faint; there was a definite to and fro machinery like murmur heard best in the second and first interspaces just to the left of the sternum; this murmur was transmitted upward and out somewhat towards the left shoulder. At times this murmur was not as marked as at other times. The sounds at the apex seemed normal. There were no thrills and no friction rubs.

Abdomen: The spleen was not felt.

Extremities: There was no cyanosis, no clubbing; I thought I saw a splinter-like petechia in the right thumb nail.

It was my opinion that this patient had a patent ductus arteriosus and that she had a streptococcus subacute endarteritis located in the lumen of the patent ductus arteriosus. I felt that the patient had had a relapse and, as is well known, endarteritis of the ductus is very difficult to cure even with penicillin.

This patient was put on penicillin and received 11,700,000 units intramuscularly.

Dr. Bigger operated on this patient on August 7, 1947.

The patient got along very nicely during the operation. It was interesting to note that both the systolic and diastolic pressures went up as the patent ductus was ligated and, following this, the diastolic remained higher than before. She ran a fairly uneventful post-operative course. She did have some accumulation of blood in the left chest and had a thoracentesis. On discharge her red count was 5,300,000 and the hemoglobin was 98%.

This patient has gotten along very nicely and has been back at work for several months. I last saw her in my office on February 27, 1948.

Treatment: As has already been stated, the treatment has changed greatly in recent years. Previously, many and varied types of combinations of treatments were tried without benefit. Many fads came into popularity and then faded out. The prognosis remained the same—supposedly 1 in 100 cases recovering, the other 99 dying.

White and Kelson in 1939 first introduced the use of the sulfonamides (sulfapyridine) combined with heparin. This was indeed one of the greatest advances in the treatment of this previously highly fatal disease. Penicillin was soon after tried and now the method of choice of treatment in the vast majority of cases of acute or subacute bacterial endocarditis is penicillin. In some cases, for example, B coli or hemophilus para-influenzae, streptomycin should, perhaps, be tried alone or in combination with penicillin. Many reports have occurred in the last several years dealing with techniques of treatment and results obtained in various series of cases. We shall have to await the results of cooperative groups from various large centers before drawing final conclusions. Christie, for example, reports that 147 cases of subacute bacterial endocarditis were treated with penicillin and 50 have died, 81 are apparently cured, and 16 were still under treatment.

Morgan Jones *et al.* report from the literature 406 cases treated with penicillin with 266 alive and free from infection. Wagner, in a recent and excellent analysis of the literature, reports, of 521 cases of subacute bacterial endocarditis treated with penicillin, clinical cure was obtained in 371 patients (71.3%) and these have remained well. In an additional 95 cases (18.2%) an apparent cure was recorded in the hospital, but these patients had a recurrence of the disease and died within four months. There were 55 cases (10.5%) remaining, who were complete failures. Chester Keefer recently reported that, in general, 65 to 85% of cases of subacute bacterial endocarditis treated with penicillin recover. Roughly, 22% of the cases are back at their former occupations. 11% of the whole group died and, of this 11%, 70% died of congestive heart failure; cerebral embolism and kidney complications were next as the cause of death.

These results are certainly encouraging, and should cause us to keep on the alert and have a "high index of suspicion" in dealing with cases of indefinitely symptomatology and slight fever, and more especially if there is any evidence suggestive of valvular heart disease.

The outlook of patients with acute bacterial endocarditis is still not so encouraging. Wilhelm *et al.* reported 8 such cases treated with penicillin; 3 with staphylococcic endocarditis recovered, while four patients with staphylococcic and one with pneumonococcic endocarditis died.

In my opinion there is not as yet, and probably

never will be, any standardized method of procedure in the treatment of acute or subacute bacterial endocarditis. Some cases are apparently cured by rather small doses given for about fifteen days. However, this is certainly a risky procedure for such a deadly disease. Wagner reports 30 cases receiving daily dose of 100,000 to 200,000 units for 14 to 21 days with a clinical cure for 56.1%, whereas, in 46 cases receiving 300,000 to 500,000 units per day for 28 to 36 days, the clinical cure was 87.5%. The above figures certainly point out the necessity of large doses given over an adequate number of days.

Before starting treatment of these cases, one should, if possible, determine the exact causative organism and the sensitivity of its causative organism to penicillin *in vitro* within a range of 0.1 to 1 unit per cc. If the organism is one which we would expect to be sensitive to streptomycin but not to penicillin, the sensitivity to streptomycin should be determined. The dosage of penicillin should be adjusted somewhat in relationship to the sensitivity of the infecting organism. The blood level of penicillin should exceed by several times that level shown *in vitro* as necessary to combat the organism. I should like to point out that I fully realize the difficulty of obtaining tests of penicillin sensitivity and penicillin blood levels in certain circumstances. The above suggestions are idealistic. In my opinion it is most important to first make sure of your diagnosis and then start immediate treatment, especially in cases of acute bacterial endocarditis occurring as a complication of other acute diseases. I believe it is now the concensus of opinion that it is best to give the usual case of bacterial endocarditis 500,000 units of penicillin daily for a minimum of 28 days. There are numerous opinions in regard to the method of choice of administering penicillin. Perhaps, in a hospital the continuous intravenous drip method in which the penicillin is given in 1500 to 2500 cubic centimeters of 5 per cent glucose or normal saline is best. However, it has obvious drawbacks, and thrombophlebitis is certainly one. Some prefer the continuous intramuscular drip method, probably most often used is the ordinary intramuscular method. Careful studies of the plasma penicillin show at the end of 2 hours that, for practical purposes, none of the drug remains after a single injection. Therefore, if this continuous drip method is not used, the method of choice would be to give equal amounts of penicillin suspended in 1 cc. of fluid on the hour, every hour of the twenty-four hour day. If the patient's condition does not improve when he has been kept on this routine for 28 days, 1,000,000 units should be given daily for another 28 days. Some cases will require even more penicillin, and, again, it must be remembered that each case must be treated individually. Some observers feel that the use of 300,000 units of penicillin in beeswax or peanut oil is wise; in certain circumstances one might have to make such a compromise, but I would not recommend it as a method of choice.

It is difficult to decide when a given patient is "cured". A negative blood culture does not necessarily indicate a cure. I believe that if, after such a 28 day course of treatment, the patient appears to be without infection clinically, numerous blood cultures, negative, the white blood count and sedimentation rate being normal, we would be justified in discounting treatment and pursuing a course of watchful waiting with frequent check-ups.

Caronamide (Staticin Caronamide — Sharp & Dohme) has been used in conjunction with penicillin in the treatment of subacute bacterial endocarditis. Caronamide is a compound of low toxicity, which is capable of suppressing the excretion of penicillin by the renal tubules. Eighty per cent of penicillin is excreted through the renal tubules, whereas the caronamide is supposedly excreted in the urine by glomeruli filtration. Thus, by suppressing the excretion of penicillin by the kidneys, caronamide causes definite increase in the concentration of plasma penicillin. The dose of caronamide has not been standardized, and possibly never will be; the amount necessary in a given patient apparently varies from day to day. Boger *et al.* suggest that plasma caronamide concentrations of 20 to 30 mgms. approximate that required to inhibit penicillin excretion by normal renal tubules. The dosage may vary from 4 to 24 grams per day in divided doses. Concentration of plasma penicillin obtained must be the deciding factor; however, it has been satisfactorily demonstrated that a much higher concentration of penicillin can be obtained by the additional use of caronamide than by penicillin alone in those difficult cases in which it is necessary to obtain such a high concentration of penicillin to successfully combat the disease.

Since caronamide has to be given in rather large

doses to be effective, and since it is excreted by the kidneys, the necessity of maintaining a large urinary output, preferably alkaline in reaction, can be readily understood.

Time will not permit discussion in detail of the general methods which should be used in treatment, such as rest, high caloric and high vitamin diet, iron, and at times transfusion of whole blood. The complication of congestive failure should be treated with digitalis, ammonium chloride, aminophyllin and mercurial diuretics.

As you can see, I have not attempted to present cases showing 100% cure. One case presented was of acute bacterial endocarditis seen before the advent of sulfonamides and the anti-biotics, which made a rather rapid lethal exodus; the results might still be the same if we were to see such a case today. Another case pointed out the difficulties and importance of the differential diagnosis of reactivation of a rheumatic fever state and subacute bacterial endocarditis. The other cases were presented because of certain unusual features which they showed.

Professional Building.

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Better Vision of Television.

These suggestions should help television fans see programs better and prevent eye fatigue. *The Journal of the American Medical Association* (April 23 issue) said in answer to a query.

1. In general, a large screen is considered better than a small one, because it allows clearer vision at a greater distance and gives a larger visual angle.

2. A distance of 10 feet or more away from the screen would, in general, be better than a shorter distance, provided the size of the screen and of the room would permit.

3. The nearer perpendicularly the screen is viewed, the better. Too much of an angle produces distortion and makes coordination of the two images received by the eyes difficult.

4. Although there is not a definite time limit for watching television, some discretion should be used, and it should not be persisted in beyond the point of fatigue.

5. Daylight screens, in general, are considered better than the ordinary ones because they are compatible with more light in the room, thus reducing the contrast between screen and surrounding objects.

Although television in itself does not produce eye strain, it requires all the important "components of the visual act," and patients often complain of fatigue after relatively short periods, *The Journal* said. People with eye defects are especially likely to notice fatigue.

INTRATHORACIC HOUR-GLASS GANGLIONEUROMA A CASE REPORT

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The hour-glass, or so-called dumb-bell tumors, of the chest have assumed a more important role in recent years with better methods of diagnosis. Although the reports of this type of tumor are infrequent, it probably is not as rare as it seems to be.[3,8] It occurs often enough so that it should be considered in all cases presenting signs of cord compression. The purpose of this report is to present a case of a large intrathoracic dumb-bell ganglioneuroma which had signs of cord compression without pain or symptoms referable to the chest. There will also be a brief discussion of intrathoracic hour-glass tumors with particular emphasis on the ganglioneuromas.

Loretz in 1870 first described the hour-glass tumor involving the spine and posterior mediastinum.[4] It was successfully removed and found to be a ganglioneuroma. Heuer in 1929 collected fifty-nine cases of hour-glass tumors of the spine and added three of his own.[1] Thirty-seven of these were intrathoracic. Naffziger in 1933 reported fifteen more, seven of which were intrathoracic.[3] In 1944 Kent *et al.* collected one hundred and five intrathoracic neurogenic tumors from the literature and eighteen of these were of the hour-glass type with six being ganglioneuromas.[8]

These neurogenic tumors arise from nerves, ganglia, or the sympathetic chains and are of hour-glass shape. The smaller portion of this hour-glass tumor occupies the spinal canal and compresses the cord and the other larger portion projects into the posterior mediastinum, the two being connected by a pedicle usually through an intervertebral foramina.[8,9,10] They vary in size from small lesions to the neoplasms of the size of a grapefruit. They are usually hard, well encapsulated, elastic tumors that cause enlargement of the intervertebral foramina by pressure atrophy and may even cause partial destruction of the laminae, bodies of vertebrae, or adjacent ribs.[10] The ganglioneuroma's origin is presumably from the dorsal sympathetic ganglia, and they grow through the intervertebral canal into the spinal canal as well as into the mediastinum.[1,4,7] This tumor is a rare slow growing benign neoplasm composed of well differentiated adult nerve ganglion cells occurring singly or in groups, delicate nerve fibers, and connective tissue.[4,7] The other types of neurogenic tumors are neurofibromas, fibromas, neurinomas, neurilemmoma, sympathicoblastomas, neurogenic sarcomas, and neurofibrosarcomas.[1,4] Hour-glass tumors can also arise from vertebral ligaments, cartilages, ribs, dura, and fascia, but these will not be considered here.[1,3]

Kent *et al.* reported that 37 per cent of all primary nerve tumors of the thorax which he reviewed had undergone malignant change, and that 41 percent of this type in the Barnes Hospital, St. Louis, were malignant.[8] Consequently, it is apparent that primary nerve tumors are dangerous. Once malignant degeneration has occurred the case is usually hopeless.

Clinically, the presenting picture is usually that of the cord compression syndrome with symptoms averaging from four months to two and one-half years in duration.[3,10] The history is frequently that of a gradually progressing spastic paralysis of the lower extremities associated with sensory disturbances. Pain is present in about 35 per cent of the cases and usually is due to the intraspinal portion of the tumor causing root pains.[1,3] The chest symptoms are rare and are due to pressure on the adjacent mediastinal and lung structures. A careful neurological examination will usually reveal pyramidal tract signs, sensory disturbances with an upper level of anesthesia, and occasionally bladder and rectal sphincter involvement. Occasionally an area of dullness can be detected posteriorly along the vertebra. X-ray studies will usually reveal a mediastinal mass, enlarged intervertebral foramen, and pressure erosion of the adjacent bony structures. Sometimes the tumors are accidentally picked up on routine chest x-rays, at operation for cord tumors, or at autopsy. All cases with cord compression symptoms should have a chest x-ray, for, occasionally, after a cord tumor is removed, it will

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recur from an undiscovered pedicle of a dumb-bell tumor. A lumbar puncture will usually reveal an elevated spinal fluid protein and often a positive Queckenstedt test.

The treatment is surgical and now in the days of improvements in anesthesia and surgical techniques, surgery of the mediastinum is relatively safe.[5,8,9,10] No attempt will be made to go into surgical technique other than to say that, according to most reporters, the intraspinal tumor should be removed first, particularly with cord symptoms.[3,8,10] Often at the same time the mediastinal portion can be removed, although surgeons sometimes delay removal for a few days.

The following case of an intrathoracic dumb-bell tumor occurred recently at the University of Virginia hospital.

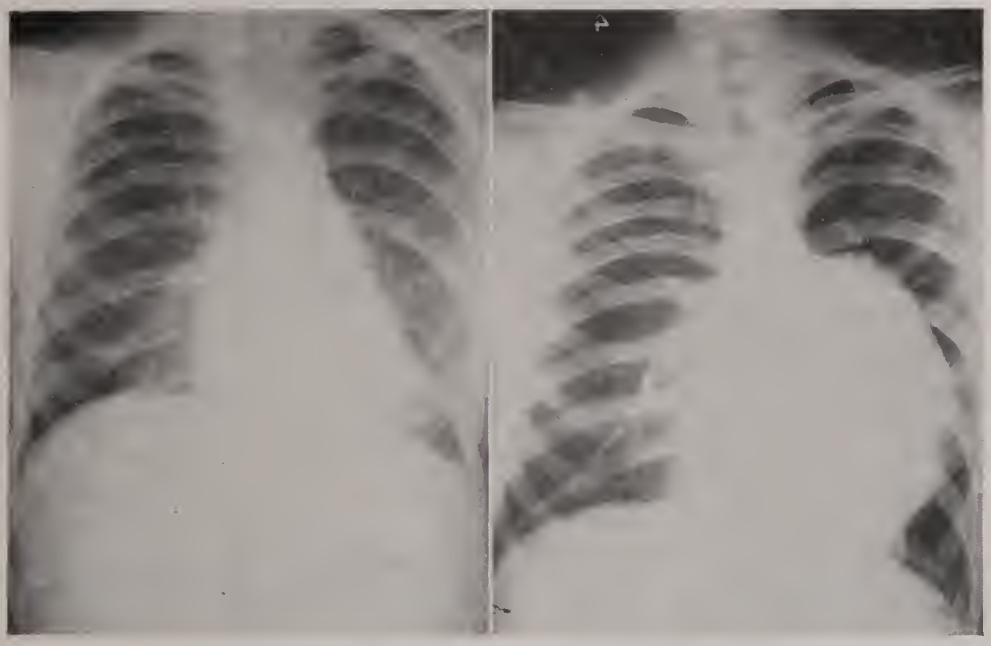

Fig. I.—Chest X-rays before and after surgical removal of the hour glass tumor.

CASE REPORT

A 14 year old white school boy was admitted on March 29, 1948, with the chief complaint of weakness in his legs of three weeks duration.

This boy was in good health until three weeks prior to hospitalization when he began to notice a stiffness of his right knee which was soon followed

Fig. II.—The Mediastinal portion of the hour-glass tumor (opened).

by the same sensation in his left knee, ankles, and feet. Shortly thereafter he became aware of a progressive weakness in both lower legs associated with numbness that progressed to the point where the weakness involved his entire legs and back. There was no involvement of his upper extremities and at no time did he have any pain or chest complaints. One week before admission he could not walk without being assisted because of difficulty with balance and weakness. He was referred to this hospital for diagnosis and treatment.

Physical examination on admission revealed a well developed and nourished young male in no acute distress with a temperature of 99.2, pulse 80, and blood pressure of 100/60. His pupillary reflexes and fundi were normal. His tonsils were somewhat enlarged with a few pustular crypts. A chest examination was negative except for a slight degree of dullness in the left lower chest below the scapula adjacent to the vertebra with a slight suppression of breath sounds over the same area. There was a slight degree of scoliosis of the mid-dorsal spine but there was no tenderness along the dorsal or lumbar spine. Examination of the heart and abdomen was normal. A neurological examination revealed the following findings: There was a moderate degree of weakness with spasticity of both legs. He was unable to walk without assistance and had a spastic gait. The Romberg test was positive. His deep knee and ankle reflexes were very hyperactive with an associated sustained clonus. The abdominal and cremasteric reflexes were absent and the Babinski was positive bilaterally. The Oppenheim and Gordon signs were negative. There was a decrease in pain, temperature, and position senses below the knees, more marked on the right. His vibratory sense was almost completely absent below the knees and was impaired to a level as high as the iliac crests. There was no difficulty with bladder or rectal sphincter tone. A visual field examination was normal.

The laboratory data was as follows: His urine was normal and he had a 12,800 WBC with a normal differential count. He had 4,700,000 RBC with 14.5 grams of hemoglobin. The blood and spinal fluid Wassermanns were negative. His sedimentation rate was normal and a stool examination was negative. A lumbar puncture revealed a pressure of 180 mm. of water and 15 cc. of a clear colorless fluid was removed. The studies of this fluid were normal except for a total protein of 150. When this procedure was repeated four days later, it was found that after removal of 5 cc. the flow became extremely slow suggesting a partial block.

A chest x-ray revealed a large rounded homogeneous mass with well delineated borders measuring at least 14 cm. in diameter extending out from the left hilus and cardiac shadow, which in the lateral view occupied the posterior mediastinum. There was a slight left lateral scoliosis of the mid-thoracic vertebrae and there was a suspicious pressure erosion in the paravertebral area of the eighth and ninth ribs on the left. The lumbosacral x-rays were normal.

After the discovery of this huge mediastinal mass, it was felt that the patient might possibly have a dumb-bell type of tumor with extension through the intervertebral foramen and causing compression of the cord. He was seen in consultation by the Neurology, Neurosurgical, and Chest Surgery services who felt this was the case, and surgery was planned. Because there was a possibility of malignancy, it was decided to remove the thoracic portion first and a few days later to remove the spinal tumor.

On the thirteenth hospital day a thoracotomy was carried out and a large, firm, easily freeable tumor about the size of a grapefruit was located in the left posterior mediastinum. A careful dissection revealed a projection of the tumor into the foramen between the seventh and eighth vertebrae. An attempt was made to gently enucleate the mass entering the foramen, but this was unsuccessful so it had to be amputated at that point. The patient stood the procedure well but in the next few hours it was noted there was a rapid progression of the weakness of his legs resulting in almost complete paralysis. It was felt that this was probably an edematous reaction of the remaining portion of the hour-glass tumor causing further cord compression. The following morning a laminectomy was performed on the seventh, eighth, and ninth dorsal vertebrae and an encapsulated epidural tumor about 2 x 4 cm. was found compressing the cord. This tumor was traced to a tremendously enlarged intervertebral foramen between the seventh and eighth vertebrae and was removed in its entirety.

Microscopic studies of the tumor revealed fairly loose connective tissue in which were enmeshed numerous ganglion cells and occasional non-myelinated

nerve fibers. The diagnosis was a ganglion neuroma.

He had an uneventful postoperative course with a gradual return of a large part of the function of his legs, his convalescence being assisted by physiotherapy. At the time of discharge the patient was able to move his legs quite well and the position sense in his toes had returned. The patellar reflexes were still hyperactive and an ankle clonus was still present. The Babinski reflexes were still positive. It was thought that the eventual outcome would be favorable although complete return of function was not expected.

The final diagnosis was an hour-glass ganglioneuroma of the chest and spine. He was discharged May 13, 1948, after six weeks of hospitalzation to carry out physiotherapy and muscle re-education at home. A subsequent examination three months later revealed that he was able to walk quite well with the aid of a cane and could walk a short distance without one.

DISCUSSION

Hour-glass tumors of the spine occasionally give only symptoms of cord compression and consequently can only be detected by adequate x-ray studies of the chest and spine. This case illustrates such a picture, for at no time did the patient have any pain or chest symptoms. Should the spinal portion be removed without further investigation and a dumb-bell tumor overlooked, the tumor will recur. Surgical removal of these tumors is the only treatment, for x-ray is valueless.[8] In removing an hour-glass tumor, the spinal portion should always be removed first. The surgical trauma of tugging and pulling that will occur when the chest portion of the tumor is removed first will be transmitted through the pedicle to the spinal portion and cause a reactive edema and swelling with resulting greater insult to the cord. In a great many of these dumb-bell neoplasms both portions can be removed at the same operation.[10] Surgery should be carried out as soon as possible after the diagnosis is made as 37 to 41 per cent of these neurogenic tumors of the chest have been found to be malignant.

SUMMARY

A case of an intrathoracic hour-glass ganglioneuroma has been presented whose symptoms were those of a compressing lesion of the dorsal spinal cord without pain and discovered by x-ray. It was successfully removed and the function of the lower extremities was for the most part restored.

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HEMOSTATIC ABSORBABLE OXIDIZED CELLULOSE IN TRAUMATIC INJURIES*

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A new aid to surgery, oxidized cellulose is prepared from gauze or cotton by a special process which converts the unoxidized cellulose into cellulosic acid[1] which is an absorbable, hemostatic chemical. This substance causes prompt hemostasis when applied to oozing surfaces and active bleeding, and, when left in contact with incised tissues, it is readily absorbed. Oxidized cellulose is pliable and easy to pack into bleeding wounds because, when wet with blood, it becomes sticky and swells, forming a dark brown gelatinous mass. This substance is used in many surgical procedures by direct application to the bleeding surface. To control brisk bleeding, pressure is also required in addition to the oxidized cellulose. It must be remembered, however, that all bleeding points should be ligated in accordance with approved surgical technique. When used within incised organs or visceral beds, wounds may be closed without drainage. Except when used for emergency hemostasis, this hemostatic agent is not recommended as a surface dressing for open wounds.

MODE OF ACTION

Oxidized cellulose was first prepared by Kenyon and his associates[2,3], and has been studied to determine if it has any irritating properties and its rate of absorption from tissues, both human and animal. Using a special technique, Frantz and associates[4] found that oxidized cellulose placed in connective tissue, muscle, bone, serous and synovial cavities, brain, thyroid, liver, kidney, and spleen, was completely absorbed. This absorption time depended on four factors: the amount of material placed in the tissue; the extent of operative trauma; the amount of blood present; and the presence of infection. Gruhzit and associates[5] have described the disintegration and absorption of oxidized cellulose as follows: "When implanted in tissue or when in contact with tissue fluids or blood, oxidized cellulose forms a coagulum. In this manner it produces local hemostasis. Following the initial hemostatic effect it is quickly changed into a dark brown soft mass, which, in turn, becomes a jelly-like colloidal material. Subsequently, the jelly like mass becomes thin, forming a water-like, pigmented fluid, which either diffuses or is taken up by phogocytosis into the general tissue fluid circulation." Franz[6] states that no appreciable clot forms in the meshes of the gauze. Gruhzit[5] states that at the point of implantation a nodule or cyst is formed which is surrounded by a coagulated tissue membrane. As the material becomes lysed and absorbed, the coagulum is surrounded by a fibroblastic zone with large monocytic invasion. Absorption is followed by some connective tissue scar formation. Frantes and Lattes[7] observed no inflammatory reactions following the implantation of oxidized cellulose unless associated infection or foreign bodies were present. Oxidized cellulose when implanted in bone[7], due to its acidity, causes a slightly delayed formation of callus. There is no delay, however, if, after hemostasis is obtained, the material is removed in three or four days. The hemostatic action seems to depend on the formation of a coagulum consisting of the salts of polyanhydroglucuronic acid and hemoglobin. This is readily demonstrated in vitro[7]. Also, a contributing factor present is the ability of the oxidized cellulose to swell when moist with tissue fluids, which makes it very useful as a packing agent, as it adapts itself to wound spaces.

CLINICAL USES IN ELECTIVE SURGERY

In general surgical and neurosurgical operations, this hemostatic agent is not removed before closure of the incision. Delayed healing or unexplained febrile reactions do not occur. In otolaryngologic operations it is removed the fifth post-operative day by means of a suction cannula. Franz[6] states "Since the report of our first seventeen clinical trials we have had an opportunity to study more cases and to hear informed reports from investigators in other hospitals. In two of one hundred fifteen cases which came to autopsy, one three days, and one three months after operation, we have had the opportunity to confirm our belief that the reaction in human tissue is similar to that in experimental animals,

*Read before the Buchanan-Dickenson County Medical Society at its October, 1948, meeting.
Dr. Johnston was recently located at Grundy, Va.

and that the material is absorbable and non-irritating". Frantz and Lattes[7] review two hundred and eighty (280) operations using oxidized cellulose in the following conditions: Partial hepatectomy, liver biopsy, retroperitoneal tissue, infected wounds, bone, biopsies, amputations, thyroid, tooth sockets, nasal cavity, tonsillectomy, rectum, prostate, kidney, circumcision, vaginal wounds, urinary bladder, and neurologic. It should be remembered that any hemostatic agent is not a substitute for ligature or suture and that the greatest field of usefulness for these materials is where ligature or suture does not adequately control hemorrhage, or can not be used.

There are times when the surgeon cannot control the oozing and he would have to try to clamp or suture blindly, which is a very dangerous procedure. Oxidized cellulose is especially appropriate for this occasion. Again, gauze packs which must be removed are frequently used to control massive venous hemorrhage. When hemostatic agents are used there is no need to remove this absorbable material and thus the danger of secondary hemorrhage is removed. These absorbable agents are remarkable in radical resections where blood loss is great. They keep the loss of blood to a minimum and allow an operation to be performed where blood for transfusions is not available in large amounts. Thus, conservation of blood by hemostatic agents which are absorbable, holds much promise.

Experimental work by Jampolis and associates[8] show that with these valuable new absorbable hemostatic agents there will be a widening of the scope of operative surgery, especially in the field of vascular and cardiac surgery, and in the operative attacks on malignant tumors.

Clinical Observations in Traumatic Surgery

Hemostatic agents have made it possible for major surgery to be performed with a greater degree of safety to the patient than previously. This is especially true in smaller hospitals where professional assistance is at a minimum. The following clinical applications are similar to those previously reported with the exception of the use of hemostatic absorbable oxidized cellulose in traumatic cases instead of in elective surgery.

Case 1.—10143, I. S., white male, admitted 11/21/46 with a stab wound of the abdomen. A tear in the mesentery was closed. Puncture wounds of the stomach and ileum were purse-stringed. A laceration of the thoracic duct was found, sutured end to end, and cuffed with oxidized cellulose. A retroperitoneal hemorrhage was packed with the same material. The patient made an uneventful recovery. It is believed that the oxidized cellulose assisted in renewing the continuity of the thoracic duct and controlled the retroperitoneal hemorrhage. A follow-up of this patient revealed perfect healing, symptom-free and he is back at work in the mines.

Case 2.—10205, J. H., white male, admitted 12/26/46 with two thoraco-abdominal stab wounds, left side, as well as two large lacerations of the back and arm. Hemorrhage was active and oxidized cellulose was applied to these wounds to control bleeding while the thoraco-abdominal surgery was performed. Oxidized cellulose was applied to a laceration of the spleen and pressure maintained for three minutes. Upon release of pressure the oxidized cellulose remained firmly adherent to the spleen and the hemorrhage was under control. The hemostatic material was removed from the lacerations and they were sutured. The oxidized cellulose retained body fluids by being placed in the lacerations while the thoraco-abdominal surgery was performed, and also controlled the hemorrhage from the spleen without having to further shock the patient with a spleenectomy.

Case 3.—10830, D. M., white male, admitted 8/3/47 with a penetrating bullet wound, transversely through the upper abdomen. Perforations of the stomach and small intestines were repaired, and profuse bleeding from the liver controlled by packing oxidized cellulose in the wound of entrance and exit. Follow-up of this patient revealed him back at his occupation of mining.

Case 4.—11376, R. S., white male, admitted 5/10/47 with a stab wound of the abdomen. A perforation of the stomach and a tear in the omentum was repaired. A large laceration of the liver was sutured over a pack of oxidized cellulose, controlling the hemorrhage. The second post-operative day the patient suddenly expired. Permission for a post-mortem was denied but, from the manner of his death, it was supposed that it was due to a secondary hemorrhage.

Case 5.—10750, M. W., white female, admitted 7/27/47, following an automobile accident, with a compound, depressed skull fracture, right parietal region, with lacerations of the brain. During the operative procedure severe oozing was encountered

and the bleeding was controlled by the application of oxidized cellulose. Recovery was uneventful and the patient attended school last year and did very well.

Case 6.—11339, C. C. white male, admitted 11/7/47 with a thoraco-abdominal bullet wound. A laceration of the superior lobe of the liver was packed with oxidized cellulose and the bleeding completely controlled. Recovery was entirely uneventful except for an evisceration on the tenth post-operative day which was repaired. The patient is now working in the mines.

SUMMARY

A brief review of the literature on hemostatic absorbable oxidized cellulose has been made with the inclusion of a few cases where this material has been of inestimable value in controlling hemorrhage in traumatic cases. The clinical cases reported are actually a minor problem of hemostasis; the major problems of vascular and cardiac surgery remain to be tested clinically following excellent experimental work[8].

1.—Oxidized cellulose is completely absorbable.

2.—The hemostatic action of oxidized cellulose is rapid and complete.

3.—Oxidized cellulose causes no tissue reaction.

4.—Absorbable oxidized cellulose makes safer surgery possible in institutions where good professional assistance is not available, but where the surgery must be performed.

5.—Oxidized cellulose is an excellent aid in controlling hemorrhage in traumatic as well as in elective surgery.

6.—Late experimental work has shown that the use of hemostatic agents will widen the scope of surgery, especially vascular and cardiac surgery, and procedures on malignant tumors, where large amounts of active bleeding may be present.

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COOK, HENRY WIREMAN, and BRIGGS, JOHN BRADFORD: Clinical Observations on Blood Pressure. Johns Hopkins Hospital Reports 11:451,1903. Drs. Cook and Briggs were House Officers of the Johns Hopkins Hospital who, when the new Riva-Rocci sphygmomanometer became available, spent all their waking hours recording and tabulating blood pressures of students and patients.

Under the heading "Blood pressure observations of obstetrical cases" they recorded pressures in pregnancy, labor and in eclampsia. They found that Braxton-Hicks contractions cause a rise of blood pressure. Engagement of the fetal head causes a fall in blood pressure. Onset of labor causes an increase of the mean systolic pressure. Each contraction is accompanied by an elevation of blood pressure. "Pelvic reflex" produced by introducing the whole hand into the vagina or by traction on the child causes a marked elevation of blood pressure comparable to that produced by forcible dilatation of the sphincter ani. Eclampsia produces a marked rise and this rise is of greater diagnostic and prognostic value than the appearance of albumin.

A CONSIDERATION OF THE EFFECTS OF MINOR DEGREES OF FAILURE OF FUSION OF THE MULLERIAN DUCTS*

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The minor degrees of failure of fusion of the Müllerian ducts to be considered here are uterus subseptus, and uterus biconis unicorpus unicollis. The only detectable difference between these is that in the former no uterine defect can be felt on examining the uterus externally, whereas the latter defect can be felt as two horns—at least during the third trimester of pregnancy. Another minor defect, the arcuate uterus, can be felt to have two horns externally, but has a smooth interior and will not result in the complications under discussion.

My purpose in presenting this topic is that fate has brought it to my attention in the last year and made me realize the importance of recognizing such defects. These minor deformities are actually fairly common. Yet this has not been generally realized. Falls in 1928 recognized the incidence to be about one per cent of labor cases. Yet Hoyt Tayler wrote in 1943 that the incidence of all degrees of failure of fusion of the Müllerian ducts in obstetric patients was one in 1500. Stanley Way in 1945 reported an incidence of one in 389. In August 1947 he reported an incidence of one in 78 cases—which he believes entirely due to the fact that he was looking for them.

This incidence, of course, means that every doctor doing obstetrics will meet such defects reasonably frequently. Since Ways series of 37 cases with 78 pregnancies is large, I shall quote his incidence of complications:

Transverse lie	27%
Abortion	26%
Retained placenta	15%
Breech presentation	9%
Premature labor	9%
Placenta previa	5%
Prolapse of the cord	5%

In addition, he says, premature separation of the placenta is common if the placenta is inserted on the septum. His combined fetal and neonatal mortality was a little over 20%. Of these, 2 babies had congenital deformities incompatible with life. He examined some of the female children who lived, by x-ray with a radio opaque medium in the uterus and found similar uterine defects in several.

However, the misfortunes of these patients are not limited to pregnancy. Some will have associated urinary tract abnormalities. Unnecessary surgery due to mistaken diagnosis, such as ectopic pregnancy, adds further to their dangers.

The following 3 cases have come under observation since August 1947:

The first patient, age 22, had had 2 full term uneventful pregnancies. She went into Sheltering Arms Hospital in labor one month before term. After a 4-hour labor she delivered spontaneously a healthy female child weighing 5 pounds 2 ounces. One hour and 27 minutes later the placenta was manually removed. It was adherent to the right side of the fundus. A septum 2 inches long was felt in the upper part of the uterus.

The second patient was treated by Dr. Edwin Rucker. She was a primigravida, age 30. She had noticed passage of blood tinged fluid 2 days previously and therefore had been referred to Johnston-Willis Hospital by her local doctor. She went into labor spontaneously three weeks before term by menses, and after a 9-hour labor delivered a baby weighing 5 pounds and 9½ ounces. Twenty minutes later the placenta had not been delivered, so it was removed manually. The interior of the uterus was found to be bicornate and the placenta was implanted in the right horn. Blood loss was estimated to be 350 cc. The placenta had a velamentous insertion of the cord. At the one month check-up no uterine abnormality could be felt.

The third case was a 20-year old primigravida. On the routine 8 months abdominal examination the baby was found to be presenting as a breech. It was easily converted to a vertex by external version. Two weeks later she complained of severe backache. The baby was lying transversely this time. Again it was easily converted to a vertex. One week later she said she had had considerable abdominal pain since her last examination. At this time the head presented but was not engaged. The cervix was felt

*Read before the Manchester Medical Society, April 6, 1948.

to be one-half inch long and admitted the tip of a finger.

Two days later—six days before term by menses—she had a large gush of what she considered to be pure blood, followed at once by labor pains. She arrived at Sheltering Arms Hospital three hours later. The intern remarked that the fundus felt as if notched. The patient was in very hard labor, bleeding only slightly. Blood pressure was 90/60. Fetal movements could be felt, but no fetal heart sounds could be heard. The patient's hemoglobin was 55%. Transfusion was immediately made ready but not given. A sterile vaginal examination showed the cervix to be 6 cm. dilated and no placenta could be felt. Two hours and 40 minutes after admission the baby was delivered through the completely dilated cervix as L.O.A. by low forceps, using open drop ether anesthesia. It was a stillborn female child 48 centimeters long. Following delivery the placenta appeared to be loose in the uterus and came away immediately. The uterus was relaxed as the placenta delivered and an estimated 400 cc. of blood was passed before her bicornate uterus and vagina could be packed. Following delivery her pulse was 100, blood pressure 104/70. She was given a blood transfusion later in the day because of anemia. Her postpartum course was essentially normal.

Autopsy on the infant showed only complete pulmonary atelectasis. There were no abnormalities of the genital tract.

I am sure the presence of the bicornate uterus could have been noticed before, and the transverse presentation should have made me suspect its presence. It is quite possible that the second external version precipitated a premature separation of the placenta resulting in the death of the baby. Had I noticed the defect and realized its potentialities for trouble she would have had her blood typed long before labor began and she would have been advised to spend the last few weeks in Richmond.

It becomes evident that the most important part of therapy of these individuals is diagnosis before complications have occurred. Occasionally it may be suspected from the family history. Stanley Way found that in one instance 2 sisters and probably the mother, from her history of obstetric complications, had had the deformity. It can be palpated in late pregnancy when it cannot always be noted in the non-pregnant uterus. Sometimes the fundus feels abnormally broad. The uterus tends to deviate to one side of the abdomen, according to Falls. Transverse presentation in the last month of pregnancy should certainly lead to strong suspicion—particularly in a primigravida. In addition, breech presentation, antepartum bleeding due to placenta previa, premature labor, or a history of any of these in previous pregnancies, or a history of retained placenta or postpartum hemorrhage, should bring this possibility to mind.

Having made the diagnosis during pregnancy, the need of a blood transfusion can be anticipated. Any attempts at external version of breech or transverse presentation should be eschewed. Many of the transverse presentations will convert spontaneously the day before labor, or even in early first stage, as Way emphasized. It is, therefore, unwise to decide to do a Caesarean section on these before labor begins, except where another indication is present. When labor does begin, if transverse presentation is still present, Caesarean section or insertion of a Voorhees' bag can then be decided upon, depending on the merits of the case. The possibility of severe fœtal deformity must always be borne in mind. Whether the presence of bicornate uterus should make the treatment of placenta previa tend more to Caesarean section, I am unprepared to say. Delay in separation of the placenta should be followed by manual removal of the placenta without waiting for hemorrhage to occur. Many deliveries will of course be perfectly normal.

The treatment of patients with these defects having repeated abortions has not been extensively tried. Way x-rayed 12 patients who had had 3 or more unexplained abortions, using radio-opaque media and found such a defect in 2. He removed the septum in one, only to have the patient miscarry again. He reported a case operated on by Mr. Harvey Evers after 6 abortions, who then had a normal pregnancy with a living baby. In 1926 P. Strassman, of Berlin, reported that he had operated on 17 cases. Three had had living children following this operation and one had had 6 children. The operation consisted of a transverse cut across the top of the fundus, which was then repaired by suturing so that the repaired wound was at right angles to the cut. He claimed that no uterine ruptures occurred during pregnancy or delivery. This will still be considered extremely radical surgery by most operators.

The possibility of renal abnormality should be watched for whenever genital defects are found.

In conclusion, uterus subseptus and uterus bicornisunicorpus unicollis are common abnormalities, occurring in over 1% of obstetric patients. Although these patients frequently have normal pregnancies and labors, they also very often have seriously abnormal ones. It is, therefore, extremely important to be on the alert for them.

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Medical Arts Building.

THE PHYSICIAN

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The physician is born with a desire to serve,
Seemingly having an iron nerve;
He goes night and day, through snow and rain,
Risking his own life to relieve pain.

When the anxious mother starts to weep,
The true physician can never sleep,
Until the child has obtained relief,
And the distressed mother, lost her grief.

He continues to serve, night and day,
Helping the sick in his usual way,
Unmindful of his personal gain,
Happy in relieving human pain.

He observes the patient with a smile,
Though searching for the cause, all the while.
His mind is alert and always keen,
For diagnostic signs to be seen.

Tests are made or pictures are taken.
Then his opinion is not shaken,
For all other causes tend to fade
When the diagnosis has been made.

His work continues without a pause,
For it is not hard to treat the cause.
When the treatment is well under way,
The patient then sees the light of day.

And as he recovers from his plight,
His physician is filled with delight,
Seeing him improve and gaining ground,
Makes the doctor's joy most profound.

As the doctor labors through the years,
His life is mingled with joy and tears;
Constantly dealing with life and death,
Awaiting the first or the last breath.

And when his work on this earth is done,
And he's approaching his setting sun,
He knows his efforts were not in vain,
And his conscience does not suffer pain.

His eternal joy has just begun,
Thinking of the many battles won,
Or joining his patients, gone before
With the Great Physician, evermore.

Then in the fairest kind of weather,
They can commune with God together
And talk of the things that used to be,
And dwell with Him in Eternity.

21 North Market Street.

THE RECOGNITION OF THE LATE PULMONARY RESIDUALS OF COCCIDIOIDOMYCOSIS

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Although the acute cases of coccidioidomycosis are confined largely to endemic areas in California, Arizona, New Mexico, Texas, Nevada, Utah, and Colorado, the cases of late residual pulmonary lesions of this disease are not limited necessarily by any geographical boundaries. During the war years, a large number of civilians and soldiers were exposed to the disease in the endemic areas. It is the purpose of this article to point out that these people have since returned to their homes throughout the country, and their physicians may, thus, be confronted with the late phases of this disease for diagnosis.

At the present time, the exact incidence rate of the acute disease is unknown. In some communities in the endemic areas, it has been estimated that at least 80% of the population have had coccidioidomycosis[1]. Infection may occur readily by inhaling dust contaminated with the mycelial or vegetative form of the fungus, Coccidioides immitis. The magnitude of the problem is better appreciated when it is realized that merely driving through an endemic area can result in infection[2]. It is believed that around 60% of the persons infected are initially asymptomatic or manifest such mild symptoms as to remain undiagnosed. Such cases can be demonstrated by a "change over" from a negative to a positive coccidioidal skin test. Nevertheless, actual infection has occurred in these cases. The acute infection may resolve completely or a residual pulmonary lesion may persist, to be discovered accidentally on some future examination. The remaining 40% of the acute cases have symptomatology referable to the pulmonary system, and the infection, again, may resolve completely or may leave a characteristic pulmonary lesion. In a small percentage of cases, one in 400 coccidioidal infections, the fungus is not confined to the pulmonary system and disseminates throughout the body. When this occurs, the mortality rate in some series has been found to be 50%[3].

The late residual pulmonary lesions resulting from either the symptomatic or asymptomatic initial coccidioidal infections are characteristically of two types: (1) cavitation and (2) nodule formation. These lesions must be differentiated from pulmonary tuberculosis, solitary or multiple cysts of the lung, primary and metastatic lung tumors, and bronchiectasis.

(1). *Cavitation*: During or shortly after the acute pneumonic phase of the disease, cavitation may result. Goldstein *et al*[4] observed cavity formation in 3 of 75 acute cases. When observed in the late phase of the disease, the cavity appears oval, thin-walled, and with a minimal amount or no inflammatory reaction in the surrounding tissue. The cavity may or may not contain fluid. Pathological studies have shown these cavities to be lined by chronic granulomatous inflammatory tissue[3]. This lesion may produce no symptoms. Goldstein also noted that 2 of the 3 cavities closed spontaneously after a period of 3 to 5 months[4]. On the other hand, such a cavity may remain indefinitely with no change in X-ray appearance. This lesion should not be confused with progressive coccidioidal disease but is merely a residual of the primary acute infection.

(2). *Nodule formation*: With serial X-ray examination, it may be found that the acute pneumonic process fails to resolve completely, leaving a dense, well-circumscribed nodular lesion. This lesion is hyaline scar tissue and is permanent. Jamison[5] followed 4 cases and found that nodule formation occurred in 10 days to 3 months after the initial pneumonitis. Slight decrease in the size of the nodule, and even calcification, may occur over a period of years.

Coccidioidomycosis may be expected to enter on occasions in the differentiation of pulmonary lesions. Since the late cases, as a rule, are quiescent

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and require no active treatment, a diagnosis can be made promptly and long hospitalization or bed rest avoided if a systematic investigative program is carried out:

1. *History.* Since late coccidioidal lesions can result in cases with an asymptomatic initial illness, the patient may be unable to recall any sickness which may be regarded as the acute stage of the disease. It is obvious that a positive history of having been in an endemic area is of as great value as a positive history of an initial illness. Eliciting a story of manifestations such as hemoptysis, slight shortness of breath, deep chest pain, or pleurisy will aid in establishing the date of the original infection.

2. *Chest X-ray.* In many cases, attention is first focused on the chest when X-ray examination reveals a nodule or thin-walled cavity. Serial films usually reveal little or no change. Quite frequently the appearance of the lesion is sufficiently characteristic that a presumptive diagnosis can be made from the X-ray alone.

3. *Skin test.* The use of potent coccidioidin in 1/1000, 1/100, and 1/10 dilutions as a skin testing agent is generally specific. As a rule, a 1/100 dilution is the most satisfactory for routine testing of suspected late cases. Sensitivity to coccidioidin is unrelated to tuberculin or to proteins from other acid-fast bacteria or to proteins from bacillus abortus[6]. The test is performed and read in the same manner as the tuberculin skin test and is of the same significance. A positive test indicates concurrent or previous coccidioidal infection, except in the presence of dissemination which may produce a negative test. Care must be observed that the syringe has not been contaminated previously with tuberculin. Since the antigenicity of coccidioidin is negligible, it should not be withheld for fear of evoking humoral antibodies that would interfere with serological tests.

4. *Examination of body fluids.* Sputum or gastric washings should be studied by smear or culture on Saboraud's media for the spherule or mycelial phase of the fungus. The material is collected in the same manner as a specimen for acid-fast studies. A satisfactory culture method has been described by Wilhelm[7].

5. *Serology.* This test is carried out by using the patient's serum and coccidioidin as an antigen. The precipitin test is seldom positive in the late cases. In some instances, the complement fixation test remains positive in low dilutions and is specific. Should the complement fixation titre begin to rise in the presence of a residual lesion, dissemination of the fungus infection should be strongly suspected.

The following cases have been selected from a series under observation to demonstrate some of the aspects of the late pulmonary lesions of coccidioidomycosis:

Case 1. This twenty-seven year old white male trained in the U. S. Army Air Corps in Southern California at various flying fields in the summer of 1943. He gave no history of illness at that time or since, nor was there any history of fever, hemoptysis, chest pain, weight loss, cough, or sputum (a chest X-ray in January 1943 was normal). The patient left the endemic area in November, 1943. In December, 1946, a chest X-ray revealed a 2 x 2.5 cm. cavity at the level of the 7th intercostal space in the left postero-lateral lung field about 2 cm. from the periphery (Figure 1). Physical exami-

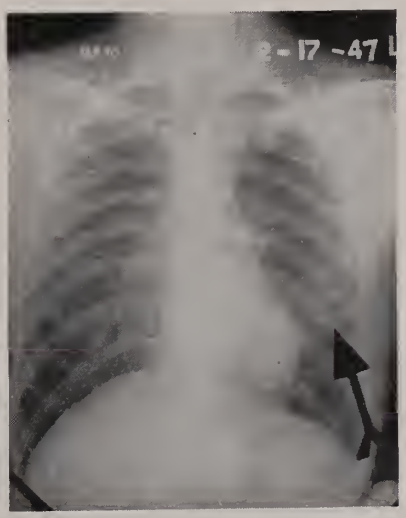

Figure 1.

nation was normal. There was no anemia and the sedimentation rate was normal. Tuberculin skin test was negative. Coccidioidin skin test (1/10) was three plus and coccidioidal complement fixation test was positive in a dilution of 1:4 in November, 1947. Sputum and gastric washings, including guinea pig inoculations, were negative for C. immitis and tubercle bacilli. Similar studies were carried out on a sputum specimen obtained from the left bronchus on bronchoscopic examination and were negative. In November, 1947, the appearance of the cavity was unchanged. However, in April, 1948, serial X-ray studies revealed complete dis-

appearance of the cavity, the X-ray being entirely normal.

Comment: In the absence of a positive history of an acute illness, it must be assumed that coccidioidal infection occurred while the patient was in the endemic area in 1943. Discovery of the typical cavitation was made on routine X-ray examination as the patient was entirely asymptomatic. A positive skin test and a positive complement fixation test in low dilution were sufficient to confirm the diagnosis of late coccidioidomycosis. Cavitation has been reported to close in varying lengths of time, but for such a cavity to remain as long as five years after the probable initial illness is not rare in our experience.

Case 2. This twenty-three year old white male was in Army flight training in Southern California and Arizona from April to September, 1944. A chest X-ray in August, 1944, was normal. There was no history of illness at this time or subsequently, and the patient left the endemic area in November, 1944. On May 29, 1946, a routine chest X-ray showed an annular cavity measuring 3 cm. in diameter at the level of the 8th and 9th ribs in the right lower lobe laterally and just beneath the lung periphery. The cavity was thin-walled and without evidence of perifocal reaction, as shown in Figure 2. Diagnostic studies were carried out in October

Figure 2.

1946, December 1947, and May 1948, as follows: sedimentation rate—normal, coccidioidin skin test 2+ (1/100), tuberculin skin test 2+, coccidioidal complement fixation—negative, and sputum and gastric washings for C. immitis—negative. This patient has remained asymptomatic to date and the X-ray appearance of the lesion has remained unchanged.

Comment: Assuming that the initial acute infection was incurred in the endemic area, we may estimate this cavity to be of three and one-half years duration, its definite presence being known and observed for two years. The history, skin test, and X-ray appearance are sufficient to make a diagnosis of coccidioidomycosis. Man-to-man transmission has never been regarded as a factor in this disease but such a method of spread has been suspected recently[8]. In the absence of symptomatology and of positive serological tests, this lesion may be regarded as quiescent and the cavitation may remain indefinitely.

Case 3. This twenty-six year old white male trained with the U. S. A.A.F. in Southern California in 1945. A chest X-ray in 1944 was normal. In June, 1945, while on a routine flight to Florida, he developed an acute febrile illness with physical and X-ray signs of a bronchopneumonia in the right lower lobe of the lung. Coccidioidin skin test was strongly positive but serological tests were not done. The acute illness subsided in two weeks and during the course of a month, the pneumonic process was observed to resolve slowly but left a persistent oval-shaped shadow of increased density in the right base just above the middle third of the diaphragm (Figure 3). Since that time, he has been

Figure 3.

asymptomatic except for an occasional complaint of mild pain under the right mid-scapula. He was re-examined in October, 1946, and March, 1948,

with the following findings: physical examination —normal, sedimentation rate— normal, coccidioidin skin test 2+ (1/100), tuberculin skin test—negative, coccidioidal complement fixation—negative, and sputum and gastric washings for C. immitis and tubercle bacilli—negative.

Comment: This lesion has been observed for approximately three years without change. Its appearance has been stable and is that of a residual nodule of coccidioidomycosis. The danger of dissemination at some future date from such a lesion has never been regarded as serious, yet it would seem advisable to follow such a lesion periodically by X-ray about every twelve months for at least five years.

Case 4. This twenty-six year old white male lived in Southern California from 1935 to 1942. He entered the Navy and continued to visit occasionally in the same area. A chest X-ray in 1942 was normal. In January, 1945, he noted the onset of a chronic cough productive of a cupful of blood-streaked sputum each day, pain in the right lower chest, and weight loss. Upon hospitalization in April, 1945, an X-ray of the chest revealed a typical coccidioidal cavity 4 cm. in diameter close to the periphery of the right lung at the level of the 7th dorsal vertebra (Figure 4a). The sputum was negative for acid-fast bacilli and the tuberculin skin test was negative. The coccidioidin skin test was strongly positive (1/00) and the coccidioidal complement fixation test was positive in a low titre. Following discharge from the Navy, he failed to gain weight, complained of fatigue, and occasionally produced a small quantity of blood-streaked sputum. In August, 1947, while under observation as an out-patient, he suddenly developed physical signs and X-ray evidence of a spontaneous hydropneumothorax on the right (Figure 4 b). There was complete collapse of the right lung and fluid to the level of the 6th rib. The fluid was a straw-colored transudate which gave a positive complement fixation test in a low titre for coccidioidal infection, as did a blood specimen. The pleural effusion and the sputum were negative for coccidioidal and tuberculous infection on culture and guinea p'g inoculation. The pleural effusion was removed by repeated thoracenteses and the lung slowly re-expanded over a period of several months (Figure 4c). The last X-ray in March, 1948, revealed the chest to have returned to its previous appearance and the cavity was unchanged.

Comment: This patient has a large pulmonary cavity as a result of previous coccidioidal infection. There has been no evidence of dissemination or of activity of the fungus. Spontaneous pneumothorax developed as a mechanical complication upon rupture of the cavity into the pleural space. Spontaneous pneumothorax is not a common complication of coccidioidomycosis but, perhaps, occurs more frequently than is recognized. A high index of suspicion may place some cases of the so-called "idiopathic pneumothorax" in this category, and all such cases should be tested with potent coccidioidin.

Figure 4. A, B, C.

SUMMARY

Acute coccidioidal infection has not been uncommon during the past decade in a migratory population (military and war industry workers) in the southwestern portion of the United States where the disease is endemic. Many cases were mild and undiagnosed initially but have resulted in late residual pulmonary lesions. Such lesions may now appear as diagnostic problems throughout the entire country. Long hospitalization can be avoided if the following procedures are used in the differential diagnosis of pulmonary cavities and nodules: (1) history, (2) chest X-ray appearance, (3) coccidioidin skin test, (4) coccidioidal serological tests, and (5) study of the sputum and gastric washings for C. immitis. Late coccidioidal pulmonary lesions must be regarded as *latent* and *not healed.* Periodic examination every twelve months for the first five years is believed advisable. Four typical cases, with spontaneous hydropneumothorax as a complication of one, are presented. A high index of suspicion for late pulmonary residuals of coccidioidomycosis in so-called "idiopathic pneumothorax" is suggested.

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NOTE: Dr. C. E. Smith, Stanford University School of Medicine, kindly furnished the coccidioidin used in this series, and also carried out the coccidioidal serological tests.

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Columbus, Matthaeus Realdus, (d.1559): De re anatomica libri XV. *Parisiis, Andreas Wechelus,* 1572. 495 p. 17½ cm. (M.L.)

Columbus was assistant to Vesalius and succeeded Vesalius at Padua. His book appeared posthumously in 1559. It makes better reading than that of his Master, but lacks the superb illustrations. In his chapter on vivisection he described the pulsations of the heart and noted that systole was synchronous with arterial expansion and that diastole was synchronous with arterial contraction. There has been much argument about the part Columbus played in the discovery of the circulation of the blood. To obstetricians he is interesting because he emphatically opposed the ancient idea that the pubic bones separate during labor. According to Singer the modern use of the term *pelvis* dates from Columbus. (Evolution of Anatomy, N. Y. Alfred A. Knopp. 1925 p. 140).

PRECOCIOUS PUBERTY IN GIRLS*

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"Nature wishes children to be children before they are men. If we pervert this order we shall produce precocious fruits."—J. J. Rousseau: Émile, I, 1762.

Animals, with the exception of man, pass abruptly from infancy to sexual maturity, lacking that period of childhood characteristic of the human being. But the latter has a long period of juvenile growth during which sexual development is essentially dormant. Then, at the appointed time, there is an awakening of the organs related to sex and puberty is at hand.[1,2]

The central nervous system and the ductless glands influence sexual development. There is clinical and experimental evidence that the hypothalamus is the seat of sex centers which can mediate or influence the gonodatropic functions of the hypophysis. It is suggested that the normal time of sexual development is tied up genetically with maturation of these centers, and at that time a hypothalamic-hypophyseal mechanism comes into play which either stimulates the pituitary to gonadotropic secretion or removes inhibitions to secretions which were present during immaturity.[2,3,4] The gonadotropic hormones then cause maturation of the ovaries with resulting production, sooner or later, of estrogen, progesterone, and ova. The ovarian hormones in turn bring about a maturation of the rest of the genital organs and the appearance of secondary sex characteristics.

This chain of events, resulting in puberty, normally occurs between the years of 9 and 17, there being individual, familial, and racial variations.[2] If puberty occurs before the age of 9, it is said to be precocious, and the cause and effect of this precocity will vary according to what link, if any, in the above chain is first affected. The effects, so far as the characteristics of the precocious puberty are concerned, are chiefly on the links in the chain distal to the one primarily affected.

CLASSIFICATION

Thus, one can, with exceptions, classify the cases of precocious puberty according to which of the above links is primarily affected; that is, according to the level of the primary lesion, if any, and according to the nature of the lesion, if present—(See table).

TABLE I
PRECOCIOUS PUBERTY IN GIRLS
Classification of Cases
(Modified from Seckel[2])

I. *Constitutional*
(Chromosomal or genic basis. Hypothalamic level. No lesion.)
II. *Pathologic*
A. Cephalic
(Various lesions, primarily or secondarily affecting the hypothalamus.)
B. Abdominopelvic (Hormonal).
1. Ovarian
a. Granulosa cell tumor
b. Teratomas
c. Chorionepitheliomas
d. ? *et al.*
2. Adrenal-cortical
a. Neoplasms
b. Hyperplasias
III. Miscellaneous
A. Albright's syndrome
B. *et al.* ?

In one type of case the normal mechanism of maturation comes into play spontaneously at an abnormally early age without there ever being a demonstrable lesion. The primary physiologic change in such cases occurs at the intracranial level. In these cases there is apparently a premature maturation of the hypothalamic sex centers due to an inherited factor. Novak has admirably described these cases and has applied to them the adjective "constitutional".[5] They have also been termed "primary" and "idiopathic".

On the other hand, those cases having demonstrable lesions may be called "pathologic". This broad pathologic group may be subdivided, according to the level affected, into the cephalic and the abdominopelvic groups. The cephalic group contains lesions which are, for the most part, in or close to the hypothalamus[5,6] and which apparently affect the hypothalamus or the hypothalamic-hypophyseal mechanism by actual invasion or through pressure.[3,7] They include various tumors, hydro-

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cephalus[4,6] and encephalitis.[8] All of the cases of pineal tumors associated with precocious puberty have been in males, except one; and there is evidence that the precocity in these cases is due to involvement of the hypothalamic area and not to any hormonal activity of the pineal body.[2,4,5,6,8] Nevertheless, there is some evidence to the contrary.[9,10] It is of interest that no case of precocious puberty due to primary disease of the pituitary has been reported.[2,5,8] In both the constitutional group and the cephalic group the primary change occurs at the intracranial level.

The abdominopelvic subdivision may be further divided into the adrenocortical group and the ovarian group. The adrenal disease may be either a hyperplasia or a neoplasia.[2,5,11] The primary change in this group does not fit squarely into any link of the chain given above, but may perhaps be thought of as occurring in a connecting side chain. The ovarian group consists chiefly of cases with granulosa cell tumors and rarely other tumors. Six cases of teratoid tumor of the ovary and 4 cases of ovarian chorionepithelioma producing sexual precocity are reported in the literature.[2,12] Incidentally, no cases of arrhenoblastoma occurring before normal puberty have been reported.[2] The abdominopelvic group may be called the endocrine or hormonal group, as the lesions primarily affect hormone-producing glands, thereby causing excessive endocrine secretion which brings about the sexual changes. A third major division may be called "miscellaneous" to include any conditions of precocious puberty not proven to fall in the other two divisions. Into this division may be put Albright's syndrome,[13] the etiology of which is still obscure,[14] though it has been suggested that it is due to an embryonic defect possibly of the central nervous system, which, if true, would place it in the cephalic group.[5] Here, also, might be put such cases as the one in which precocious puberty was reported to have been induced by the administration of insulin,[15] and the case of precocious puberty occurring in familial cretinism.[16] Coffey[17] states that "it has been reported that puberty may be accelerated" in achondroplasia, but details are not given. It seems that in the last three conditions the particular patients might have coexisting causes for their sexual precocity, such as a constitutional factor, unrelated to their overt diseases.

CLINICAL PICTURE

In general, the precocity is marked by acceleration of skeletal growth, enlargement of the breasts, development of pubic and axillary hair, and the onset of uterine bleeding.

Usually the most outstanding sign of female precocious puberty is uterine bleeding, which may be ovulatory or anovulatory, depending on the etiology of the precocity. In the constitutional type, the precocity is isosexual and complete (the ovary has matured), and the bleeding is ovulatory. In this type, pregnancy can and does occur. A case of the youngest mother on record is an example of the constitutional type.[18] In the cephalic type, i.e., in the cases due to lesions in or near the hypothalamus, the precocity is also isosexual and complete, and ovulation occurs. Though pregnancy may be possible in these cases, it has never been recorded. The cases in the cephalic group sooner or later show characteristic neurologic signs of their intracranial lesions. In the abdominopelvic group of cases, i.e., in those cases due to lesions at the ovarian and adrenal levels, ovulation does not occur. Consequently, in these cases pregnancy is not possible. Ovarian precocious puberty is isosexual and incomplete (the ovary is immature). Adrenal precocious puberty is incomplete and usually heterosexual, i.e., the ovary is immature, and virilism predominates. Menstruation is usually absent and pregnancy is not possible as ovulation does not occur.

In general, though there is a preliminary acceleration of skeletal growth in precocious puberty so that these patients are taller than their contemporaries, bony arrest occurs prematurely also, so that in the end they are apt to be smaller than these same contemporaries. The mental growth of the patient does not keep pace with the somatic growth and, in general, is not influenced.

In Albright's syndrome there are bone lesions and pigmentation of the skin associated with the sexual precocity.

Determination of the urinary estrogens has not been recorded in the constitutional type; in the cephalic type the urinary estrogens are within the normal adult range; in cases of granulosa cell tumor, the urinary estrogens are usually increased beyond the normal woman's range; in the adrenocortical group the urinary 17-ketosteroids or androgens are increased within or beyond the range normal for mature males; urinary gonadotropins have gen-

erally been negative in all types of cases but it is suggested that the latter in the intracranial group is probably due to methodical inadequacy. For additional differential diagnostic data the reader is referred to the table by Seckel.[2]

INCIDENCE

In 1933, Novak[19] stated that the total number of cases of precocious female puberty reported in the literature was "still well below 200". He pointed out that many of these were old cases going back as far as 1658, and on these cases there were usually little or no pathologic data. According to Novak,[5] the great majority of cases are of the constitutional type. Seckel[2] states that "if a precocious girl without signs of virilization is presented for diagnosis, her chances are (1) idiopathic type, (2) ovarian neoplasm, (3) Albright's syndrome (if bone disease is present), and (4) hypothalamic lesion . . . the first chance is greater than a combination of all the others." If she has virilism she falls in the adrenocortical group. Precocious puberty due to ovarian disease is far less frequent than the constitutional type of precocious puberty. In 1938, Parks[20] stated that a summary of the literature up to February 1936 revealed only 8 reported cases of granulosa cell tumor of the ovary causing symptoms in children under 10 years of age. Yet, granulosa cell tumor is by far the most common of the ovarian causes of premature puberty. In 1941, Lull,[21] reviewing the literature, reported that he was able to find there only 16 cases in which ovarian tumors had caused precocious puberty. Novak has stated[5] that for the previous sixty years only one case in which an ovarian tumor was responsible for precocious puberty was encountered in the Department of Gynecology at Johns Hopkins Hospital among the more than 60,000 patients treated.

Most all of the ovarian cases have been due to granulosa cell tumor. The incidence of teratomas and chorionepitheliomas has already been referred to. I have been able to find only 2 cases in which what appeared to be only a simple cyst was thought to account for the precocity. One was a case reported by Lull[21] in which the lesion seemed to be a simple follicular cyst. It was stated that in this case a granulosa cell tumor might have been present in a portion of the ovary that was not examined microscopically but was embedded in mice. The other case was reported by Mengert.[22] The nature of the tumor was not clear. Mengert reported that "it may have been a follicular cyst". The pathologist made a diagnosis of granulosa cell cyst of the ovary, but stated that ordinarily cysts of the type seen are not regarded as being neoplastic. In this connection, I am reporting elsewhere[23] an additional case of sexual precocity associated with an ovarian cyst but possibly of the constitutional type (Figs. 1 and 2).

Fig. 1.—Case of Precocious Puberty reported elsewhere.[23] Menstruation began at age of 6 years, 4 months. Photograph taken prior to operation at age of 7 years, 7 months.

TREATMENT AND PROGNOSIS

The treatment of patients with precocious puberty will, of course, vary with the type of case. Where operable lesions are present, these should be removed. The prognosis in cases due to lesions of the brain is bad, whereas, in cases due to granulosa cell tumor of the ovary it is excellent. In the constitutional type obviously no operation is indicated except rarely for diagnostic purposes. Patients thought to belong to the constitutional group should

be studied and kept under observation for signs of organic disease which might indicate that the condition is in reality pathologic.

Fig. 2.—Same case. Postoperative. 21 months later than Fig. 1.

In general, all of these patients should have special psychologic management, and should be protected from sex violation, and, in cases of complete precocity, from pregnancy.

The patients in the constitutional group as a rule become essentially normal adults.

SUMMARY

1. Precocious puberty in girls is discussed and classified.

2. With possible exceptions the condition is due to an inherited factor, or to lesions of the brain, the ovaries, or the adrenal glands.

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ADULT CARDIAC REHABILITATION

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In the past few years the interest in rehabilitating the child cardiac has been widespread. There are hospital beds available for rheumatic fever cases and also convalescent homes in which these children are cared for over long periods of time. This work is very gratifying and of course there is much more to be done for these children. The adult cardiac seems to have been forgotten. His problem is certainly just as important. Under adequate medical care it is not unusual to have a decompensated cardiac improved within a few days or weeks. He is then anxious to return to work, as he is the mainstay of his family and cannot afford to be idle. Although you, as his physician, realize that he should have a very long rest with rigid care, the patient's social economic status prevents him from getting this care. He returns to work and in a few weeks or months is again decompensated and returns to the hospital.

How can we properly care for these individuals over a long period of time? They are not sick enough to remain in the hospital, but they are not well enough to return to work. The convalescent homes now available are much too expensive. It is possible that in the future certain convalescent homes may be subsidized and adapted especially for cardiac patients. These will require an intelligent nursing staff, well trained in the handling of cardiacs. Competent staff physicians with knowledge of cardiac problems should be available and if necessary these patients should be taught other vocations which would be more suitable for their changed physical ability and capacity for work.

It is a terrible shock for a man to realize that he has to change his entire mode of living, especially his means of making a livelihood. He may have been an expert plumber, electrician, truck driver, or civil engineer, and all at once he is told that he must learn a sedentary occupation. This tremendous impact on his mental and economic life may have such a morbid influence on the individual that he may not be able to cope with the situation. We have known patients who have committed suicide when told that they would not be able to continue with their life's work.

These people require much attention, not only for their physical needs but also for their mental and economic requirements. There must be ways and means of helping this type of patient. We all understand the necessity for cardiac research but it is just as important that we rehabilitate the patient, reassuring him that he will eventually be reinstated into a stable life, that his family will be taken care of, and that he will be able to make a living in some sort of capacity. We realize that the future of such a program will require much thought and financial help. The set-up will have to be different from the one for rehabilitation of the child cardiac, because, if you have to take a man away from his family and his occupation for a long period of time, someone will have to take care of the family. There is no reason why we should not attempt to rehabilitate a cardiac and spend as much time with him as would be accorded a paraplegic. It is hoped that the new program of the American Heart Association will take into account the adult as well as the child cardiac. We all know there is a tremendous amount of work that must be done and probably the only way it can be done is to work out a permanent organization with individuals in charge who understand the entire problem.

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ANESTHESIA IN ITS RELATIONSHIP TO SURGERY*

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Since my graduation from medical school I have devoted all of my time to hospital work. I have been greatly interested in anesthesia; have had several years of experience in the administration of some of the many types of anesthetic agents that are in use today, and I have had the privilege and pleasure of observing the administration of anesthetic agents in some of the larger clinics and hospitals in the East. Realizing this as one of the most neglected yet one of the most important fields of medical practice, I have chosen for my paper, Anesthesia in Its Relationship to Surgery. It is my desire to discuss anesthesia in a limited yet practical and helpful way, trying to point out some of the values of good anesthesia and the hazards encountered in the administration of a few of the many anesthetics that are now being used. It is my belief that every physician, regardless of the type of medicine he practices, should have at least a general knowledge of anesthesia, its dangers as well as its values.

It is commonly acknowledged that no other single achievement of science has done so much to relieve human suffering as the discovery that certain chemicals could be used to stop all sensations of pain during surgical operations.

It is interesting to note that the effect produced is called anesthesia, a Greek word meaning *without sensation,* introduced into the English language by Dr. Oliver Wendell Holmes, who was one of the first to recognize this great boon to humanity.

Of course, as we all know, until the middle of the 19th century surgical operations were performed while the patient was fully conscious, strapped to the operating table. Many life-saving operations could not be performed at all and human beings died by the thousands because three simple chemicals, ether, chloroform, and nitrous oxide were still practically unknown.

In 1799 or 1800 Sir Humphrey Davy, an eminent British chemist, announced experiments with nitrous oxide and suggested the use of this gas in surgery, but his suggestion went unheeded.

In 1818 Michael Faraday, English scientist and physicist, showed that ether had similar anesthetic power; but still it was not used.

In 1842 Dr. Crawford W. Long, of Jefferson, Georgia, successfully removed a tumor from a patient under the influence of ether and for years he was not given credit as he did not publish a report of this and similar operations; but there is now absolutely no doubt of the fact that he was the first man to use an anesthetic in operating.

In 1846 Dr. W. T. G. Morton, a Boston dentist, used ether in the extraction of teeth, later patenting the product under the name of Letheon. I cannot refrain from remarking here on the contrast presented: Dr. Long, modest and seeking neither publicity nor riches almost lost the fame of being the first user of anesthetics because he didn't even publish the news of the great event, while the dentist Morton actually had ether patented under a trade name!

In 1847 Dr. J. I. Simpson, a Scotchman, used chloroform for the first time and announced and demonstrated its use in Edinburgh.

It is hard to realize that just a hundred years ago there was an entire absence of that great friend of man, *anesthetics.* Or at least there was an absence of knowledge that there were certain agents that could be successfully used to alleviate pain and make all sorts of operations possible that theretofore had been passed by, the patient dying, when nowadays he could be saved without the sweat and agony of pain and shock.

The most important advances in our knowledge of anesthesia and anesthetic agents have taken place within the last twenty-five years. I am delighted to know that physicians, hospitals and medical schools are beginning to realize more and more the importance and value of good anesthesia in all fields of surgical practice. It is gratifying to learn that a new department of anesthesiology has been opened at the Medical College of Virginia to offer training to physicians who desire to specialize in anesthesiology, and to give scientific instructions to medical students, teaching them not only the scientific but the practical value of anesthesia, one of the most

*Read before the semi-annual meeting of the Southwestern Virginia Medical Society, at Pulaski, October 7, 1948.

important and neglected fields of medicine.

It is a well know fact that all anesthetic agents are administered by inhalation, regional, brachial plexis block, sacral, sympathetic, caudal, endotracheal, subarachnoid, intravenous, rectal and freezing. Which method, or combination of methods, depends on several factors, some of which are age and condition of the patient, the element of time, the type of surgery, the patient's wishes, the surgeon's choice, and the availability of an experienced and well-trained anesthetist.

The question arises, being a natural one, what type or method should be used and who should administer these powerful anesthetic agents, since all carry a certain degree of danger? Shall the busy inexperienced, untrained general practitioner, the highly educated clinician, the nervous and unstable layman, the kith and kin, the graduate and undergraduate nurse, hospital orderly, or the well-trained, experienced medical anesthetist, male or female? I am firmly of the belief and certainly advocate that all anesthetic agents be administered by one who has a clear concept of the physical as well as the physiological factors of the respiratory and circulatory systems and has had sufficient scientific training and experience in addition to his being a graduate of an A grade medical school. I realize full well that medically trained anesthetists are not always available in the smaller clinics or hospitals; nevertheless, we should make an honest effort in reaching such a goal, never losing sight of the fact that the life of your patient, my patient, is intrusted into the hands of the anesthetist, a very important and valuable member of any surgical team. This is our responsibility: what are we going to do about it?

In all cases coming to surgery, emergency included, they are entitled to and should have as a pre-operative and pre-anesthetic measure a complete examination; in other words, it is important, really I should say, essential, to determine as accurately as possible the cardio-vascular-renal and respiratory reserves as well as the metabolic state of the patient. Certainly no patient should be even considered for anesthesia and surgery until blood and urine studies are completed and there has been a check on the cardiac and respiratory systems. We are all prone at times to get into too much of a hurry and become careless in preparing our patients for anesthesia and surgery. If they are not properly prepared the risk is increased and surgery is made more difficult and hazardous. The post-operative care of any patient is just as important and even more so than the preparation of the patient for anesthesia and surgery. No patient should be left alone under any circumstances. It is important, if not absolutely essential, that a graduate nurse or some qualified person stay with patient until he or she has reacted fully. The respiration, pulse and blood pressure should be taken and recorded at regular intervals, reporting to the surgeon or physician in charge any alarming symptoms or abnormal variations of the pulse, respiration and blood pressure. One of the most important factors in the post-operative case of surgical and anesthetized patients is the preservation of body heat.

I like to give all my patients, even the very young, some type of pre-operative and pre-anesthetic medication. When possible, have the patient enter the hospital the night before the operation; light supper, give some mild sedative; any of the barbituates can be used if the patient is not allergic to this group of drugs. I usually prescribe and prefer sodium nembutal grs. iss at bedtime and at 7 A.M., repeat same dosage with morphine and atropine in proper dosage 30 to 45 minutes prior to going to surgery.

I have found and use, mostly for patients undergoing prolonged surgery and deep anesthesia, 5% or 10% glucose either in distilled water or physiological saline, 500 to 1000 cc. with insulin, prior to induction and during the surgical procedure. I like to have available whole blood and plasma in addition to cardiac and respiratory stimulants.

Every physician, I believe, should familiarize himself with the fundamentals of fluid therapy since so many patients require this form of treatment and are not financially able to enter hospitals for such treatment.

The selection of the anesthetic agent is most important. The choice, I think, should be made by the personnel of the operating team, with the clinician and the pediatrician as consultants. The wishes of the patient should be carried out as far as possible, not to the extent of course, of jeopardizing one's life. Let me mention a few of the types of cases requiring surgery, suggesting an anesthetic of choice.

For children, regardless of surgical pathology present, I prefer ether, the best-established and safest anesthetic of them all. With the exception

of chloroform, it has been used more than any other agent. No difficulty is encountered in its administration. I will admit, however, that there are a few objectionable features. The feeling of suffocation initiated at induction, the post-operative nausea and vomiting, which usually can be eliminated or certainly diminished by giving it slowly or by using a small amount of sodium pentothal as a supplementary agent, and by the proper preparation of our patients for general anesthesia. This is by far the most important factor of them all. I have found pyridoxine of value in taking care of nausea and vomiting following ether anesthesia. Dextrose in distilled water is always valuable in helping control this undesirable feature.

For operative obstetrics, some prefer local with any of the gases, cyclopropane, ethylene, or nitrous oxide with oxygen. Some others prefer low spinal, caudal; while there are still others who prefer and use sodium pentothal, with good results. Personally, I like nitrous oxide, oxygen and spray ether. It has been my observation that Cesarean babies do much better with this combination than any other anesthetic other than local. They do not require resuscitation nor do they develop respiratory grunt, and oxygen is rarely ever necessary.

In laparotomy for intestinal obstruction, perforated ulcers, colon and gastric resections, cholocystectomies and gynecological surgery, sodium pentothal with nitrous oxide, oxygen, spray ether, or curare, have been in my experience the anesthetics of choice. Patients suffering with endarteritis obliterans, arteriosclerotic and diabetic gangrene and similar conditions involving the extremities, freezing is the ideal anesthetic since those patients, as a general rule are usually weak, with low resistance. There is no shock, the operative time is shortened and bleeding is practically nil. There is some pain and discomfort to the patient with this type of anesthesia. However, pain if present can be eliminated with morphia or pantopon.

For thyroid surgery, avertin rectally, with gas, oxygen, ether; local infiltration of novocaine and pentothal sodium works in some of these cases remarkably well.

For surgery of the eye, paranasal sinuses and mastoid operations, local or endo-tracheal, with ether if necessary, appears to be the ideal anesthetic for this type of case.

I have never been thrilled with spinal anesthesia. However, it is being used successfully and extensively in many hospitals and clinics. It certainly produces excellent muscular relaxation, which all surgeons like. It is not adaptable to all types of cases; of this I am sure. If the necessary precautions are taken, it is reasonably safe. When used, I like to give the patient as a pre-operative and pre-anesthetic medication, especially in elderly people with imparied circulation, coramine and ephedrine sulphate, grs. ¾, in addition to the proper dosage of morphine and atropine. This medication keeps the blood pressure at an approved level. There have been and still are various opinions concerning the position of the head of the patient while under spinal anesthesia. Some advocate lowering of the head—in other words, placing the head in the *Trendelenburg position*—while others say that this is not necessary. Metacaine, when used, being lighter than spinal fluid, favors the Trendelenburg position, tending to decrease the mortality rate. I have no fixed opinion.

Just a word about intravenous anesthesia—with special mention of pentothal. When used, it carries a wide margin of safety as an established method of anesthesia if it is correctly applied. Since 1936 it has been extensively and successfully used in all the larger clinics and hospitals, and, I am sorry to say, in dentists' and doctors' offices. I am sure it should not be thus used. At the present time pentothal sodium is being used for too many surgical procedures without due consideration of the limitations of this drug, and, as a result, unnecessary complications are arising in certain cases of surgical intervention.

A mixture of oxygen and nitrous oxide, 50% of each, should be given with pentothal. As stated before, pentothal is especially good as a supplementary anesthesia for thyroid surgery if the gland is not causing mechanical obstruction to the respiratory tract. It does not interfere with metabolism, nausea and vomiting are usually not present, and one can use as much oxygen as required.

For minor surgery, such as application of intrauterine radium, reduction of simple fractures, dislocations, cervical cauterizations, dilatation and curettage, incision of abscesses, doing painful dressing, sodium pentothal is quite useful. When using this drug there are a few precautionary measures and conditions that should not be overlooked. Always use 2½% solution, give slowly, sufficient oxy-

gen, and with a patent airway. Never give in the dark, or following the intake of food or fluids.

There are a few contra-indications to the use of this drug: Children under the age of 10. Why? Because vital lung capacity is less than adults. It should not be used in patients with reduced breathing space; in myocardial insufficiency; pulmonary tuberculosis; bronchiectasis; bronchial asthma, nor in any case where there is an obstructive lesion of the respiratory tract, or where there is severe anemia. Lundy, of the Mayo Clinic, never uses pentothal if the R. B. C. is less than 2,000,000, and the Hgn. is less than 40.

Time does not permit a more detailed discussion of this great field of medicine, such as surgery of brain, chest, throat, urinary tract, and orthopedics. After all, you should choose whatever anesthetic you prefer or may be accustomed to using, provided the condition of the patient justifies your choice of anesthetic. They are all reasonably safe if properly administered.

In closing, let me leave you this thought, although to this group it is probably another case of carrying coals to Newcastle. Give the best that's in you, and work in harmony with your associates with only one purpose in view—that of restoring your patient to normal health and usefulness. There is a famous saying of Dean Swift to the effect that whoever could make two blades of grass grow upon a spot of ground where only one grew before, he would deserve well of mankind and be of essential service to his country. But how much nobler, how much more useful to the world, is the saving of human life through your art and zeal as a physician—with a realization of the scriptural saying, "Well done, good and faithful servant" as your reward.

Lee Memorial Hospital.

Award-Winning Army Film Available.

The Army Medical Department-Signal Corps "Oscar"-winning motion picture entitled "Toward Independence", is available on a loan basis to all military organizations, and to any non-profit civilian group. The film may be obtained from the nearest Signal Corps Film Library or, if to be used for television, by writing to the Public Information Officers in the nation's six Army Areas.

The picture portrays the program for the care of paraplegics as developed by the Army Medical Department, and details the progress of a patient first learning to move about in his hospital bed, then learning to use re-educated muscles in opening doors, climbing stairs, and driving automobiles, and other steps in their rehabilitation.

Although "Toward Independence" was made as a teaching aid in the training of medical personnel, its realism and humanism won for it the annual award of the Academy of Motion Picture Arts and Sciences, as the best documentary film of the year.

"Colds" May Be Due to Allergy.

Persons who just get over one cold when another starts or have asthma only when they catch cold may be suffering from an allergy, according to a Rochester, N. Y., doctor.

Writing in the May 7 *Journal of the American Medical Association,* Stearns S. Bullen, M.D., of the Department of Medicine, School of Medicine and Dentistry, University of Rochester, says that the majority of patients who describe such symptoms to doctors probably have allergic conditions rather than infections.

There is a growing body of evidence that the cause of periarteritis nodosa (inflammation of tissues around an artery), dermatomyositis (a condition characterized by pain and swelling of muscles and inflammation of the skin), and one kind of kidney disease may be sensitivity to certain substances, he points out.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Timely Resolutions Effective.

Resolutions passed by an organization frequently appear to be of more significance to those outside the organization than to those within.

Even though it is assumed that the medical profession is against compulsory health insurance, a resolution to this effect by each local medical society in the state seems about the least that could be expected. It is hoped that every local medical society will have sent such a resolution to their representatives in Washington, either directly or through the state office, very soon.

A similar resolution will probably come before your House of Delegates in October, at its first meeting after *November Second.*

It will be most helpful if every member of the Medical Society of Virginia, would encourage similar resolutions at every opportunity, from business, civic clubs and other community interests.

Our State Educational Chairman, Dr. John T. T. Hundley, adds:

"Senators and Congressmen are being flooded with requests that they support the administration's Compulsory Health Insurance proposals. Those requests are inspired by the proponents of that legislation.

"We must counter that flood of propaganda. Write, and have your friends write, to your Congressmen and Senators, requesting them to vote and campaign against Compulsory Health Insurance.

"Our Congressional representatives are favorable to our cause but cannot help be influenced by the requests they receive. We must support them. Write now, and have your friends write."

Talk to Others—Not Ourselves.

If you write letters—and all of us write some—secure from your Director of Public Relations, Medical Society of Virginia, suitable material to be sent to the public with your letter or bill.

There is nothing new about a letter-stuffer—all businesses use it to some extent—and it is one method of getting our story across to the people who need to know the facts about medical legislation.

A few months ago this idea was tried by one physician, who had printed at his expense 2,500 copies of a feature article by Miss Dorothy Thompson. Permission was secured from the copyright owners. Soon, other physicians, dentists, and hospitals requested copies for similar purposes. As a result, the well-told, terse and informative article by Miss Thompson has been placed in the hands of 40,500 people by means of this single effort.

Physicians should send copies of any material favorable to our cause from newspapers, magazines, etc., to the Director of Public Relations, 1200 East Clay Street, Richmond 19, Virginia.

We must tell the story to those who need to know the truth—there is no point in talking to ourselves.

JAMES P. KING, *Councilor*
9TH CONGRESSIONAL DISTRICT
Radford, Virginia

Virginia Doctor Practicing At Eighty-One.

Dr. J. C. Cutler, 3201 West Avenue, Newport News, Virginia, will have practiced medicine fifty years this month. He was born in 1867 and graduated from Northwestern University Medical School in 1899, and has been practicing in Virginia since 1913. His eighty-second birthday will be celebrated November 9.

At eighty-one years of age, he is the oldest doctor on the staff of the Elizabeth Buxton Hospital, Newport News, Virginia, and he is the oldest practicing physician in the Virginia Peninsula.

Dr. Cutler, still quite a young man, is one of the doctors eligible for the Fifty Year Club of the Medical Society of Virginia, and is expected to be among those receiving this award during the annual meeting of the Medical Society of Virginia in October.

Dr. Cutler will fly to Evanston, Illinois, May 14, to be honored with fourteen other members of his medical class by Northwestern University.

Candidates for Governor vs. Government Medicine.

The possibility of government or political medicine having been brought to our attention in every

congress since 1939, and the seriousness of what effect this would have on the medical care of our people, it was deemed well by our council at its last meeting, to inquire of the attitude of the announced candidates for Governor in Virginia, on this subject.

In this connection the following letter was written to those who had at that time announced their candidacy. Their replies follow in alphabetical order:

MR. REMMIE L. ARNOLD
ARNOLD PEN COMPANY
PETERSBURG, VIRGINIA
DEAR MR. ARNOLD:

In view of legislation already offered in the 81st Congress, proposing a national compulsory health insurance plan, which naturally is of immediate concern to the doctors of medicine in Virginia and in this country, and

FURTHER, in view of the departure this represents from our American democratic way of life, and

FURTHER, in view of the ultimate effect this would have on the deterioration of medical education, medical research, and the kind of medical care that our people would get, and

FURTHER, in view of the effect this would have upon doctor-patient relationship, and

FURTHER, in view of the approach this would represent to a socialistic state, and

FURTHER, in view of the eventual increased cost of our medical care program, that this would inevitably lead to, and

FURTHER, in view of the many other objections that are as valid, the Council of the Medical Society of Virginia would like to have your views on this subject, and those of every other announced candidate for Governor, in order that these views may be made known.

For your information, we plan to publish the replies of each candidate in an early edition of the VIRGINIA MEDICAL MONTHLY, which goes to the membership of the Medical Society of Virginia.

J. M. EMMETT, *Chairman*
PUBLIC RELATIONS COMMITTEE

March 18, 1949.

DEAR DR. EMMETT:

I certainly do want to thank you for your letter of the 18th and I believe my stand in regard to the legislation offered in the 81st Congress, concerning compulsory health insurance, has already been made public. As a matter of fact, I talked to the Richmond Dental Society and outlined my views recently and I am enclosing herewith a copy of this speech. I believe it answers every question in your letter.

I am absolutely opposed to compulsory health insurance or socialized medicine and shall fight this with all the effort that I have.

I am a business man and I have seen the Government put on too many rules and regulations in business and I do not want to see these same things put on the medical profession which will eventually destroy it. You can depend upon me to assist and help fight this in every way I possibly can.

I certainly hope that you will support me regarding my candidacy for Governor of the State of Virginia. I believe I can give to the Commonwealth a good sound business administration, one which will be beneficial to all of its people. I believe I can effect economy and efficiency in Government and that I can stem the flow of increased taxation and we certainly do not want any more taxes, not even a sales tax.

Thanking you for giving me an opportunity to give you my views and with an abundance of good luck, good health and happiness, believe me to be,

Most sincerely,
REMMIE L. ARNOLD.

March 28, 1949.

DEAR DR. EMMETT:

I trust that you will pardon the delay in acknowledging receipt of your letter of March 18th which has just come to my attention.

I do not hesitate to state that I am unalterably opposed to what is generally termed socialized medicine. The reasons for my position are well stated in your letter. I am not familiar with the details of the Legislation proposing a National Compulsory Health Insurance plan, but from what I know of it it appears to be at least a long step towards socialized medicine, and I certainly do not favor it.

Thanking you for writing me, and with my personal regards and with best wishes, I am,

Cordially yours,
JOHN S. BATTLE.

April 1, 1949.

DEAR DR. EMMETT:

I am glad to have your inquiry of March 18th of my views with respect to Government medicine. Furthermore, I would welcome any opportunity to discuss in detail with the members of your profession and with the lay public the real tragedy that would result from any system of Government or political medicine. Certainly the medical care of our people is far too important to fall into such bungling hands.

The six references you make to legislation proposed in the Eighty-first Congress are of real concern to those of us like myself who are in thorough accord with the point of view of the medical profession on this subject. My concern and interest in the medical profession has

been demonstrated at past sessions of the General Assembly of Virginia. I am not only opposed to socialized medicine but to anything that constitutes an entering wedge for socialism into our system of free enterprise and democratic way of life.

Thank you for this opportunity which you have afforded me of expressing my views on this important matter.

Sincerely yours,

HORACE H. EDWARDS.

April 14, 1949.

DEAR DR. EMMETT:

I have received your letter of March 18th addressed to candidates for Governor of Virginia. I am not familiar with the Federal legislation to which you refer, and, as you realize, the Governor of Virginia has no responsibilities for either advocating or opposing Federal legislation. That is the function of our representatives in the Congress.

As a private citizen, I am opposed in principle to national compulsory health insurance.

Cordially yours,

FRANCIS P. MILLER.

March 26, 1949.

DEAR DR. EMMETT:

In response to your recent request for my views on compulsory health insurance, I would like to state that I am unalterably opposed to it.

Such a proposal seems to me a direct violation of individual rights in their most intimate form.

Aside from a public health service, and in some cases, Federal aid for hospital construction I believe that medical care now is a much higher level than it would be under any measures so far proposed in Congress.

No doubt exists in my mind that the dollar now spent on medical care buys a much greater service than the same dollar would if it were by-passed through the government.

If elected governor you may expect me to fight any measure which tends toward a socialization of medicine.

Sincerely,

NICK R. PRILLAMAN.

March 29, 1949.

General Practitioners Support Educational Campaign.

In his annual report to three thousand delegates attending the annual Scientific Assembly of the American Academy of General Practice in Cincinnati recently, Mac F. Cahal, executive secretary, pledged solid support in the American Medical Association's fight against compulsory sickness insurance.

Mr. Cahal said the Academy, which claims a membership of 10,000 general practitioners, will give its full support to the A.M.A.

"A few groups of dissidents and malcontents within the profession have sought to weaken the A.M.A. by criticizing it," Mr. Cahal said in his report to the delegates. "The final outcome of the present administration's drive to nationalize medicine under bureaucratic control will determine the system of political economy under which the citizens of the country will live in years to come. American doctors are on the front line in a war of philosophies between socialism and individual freedom."

Word also comes that the General Practitioners of Virginia have gone on record in support of cancer education for doctors to the extent of agreeing to sponsor such a program. It is understood that this is being done in cooperation with the Medical Society of Virginia's Cancer Committee, the Cancer Department of the State Health Department, and the Continuation Education Program as sponsored by the Medical Schools.

All members of the Virginia Academy of General Practitioners were urged by their Board of Directors to support and advocate participation by their patients in Blue Shield and Blue Cross, or some commercial insurance plan for the pre-payment of medical care and hospitalization.

Fluorescent Light Tubes—Caution.

Handle fluorescent light tubes with caution and dispose of them carefully, advise three doctors from the Plastic Surgery Service of Kings County Hospital, Brooklyn.

Writing in the April 23 *Journal of the American Medical Association,* Walter A. Coakley, M.D., Raymond N. Shapiro, M.D., D.D.S., and George W. Robertson, M.D., say that cuts from broken fluorescent light tubes may cause serious ulcers and tumors which can be cured only by removing tissue from a wide area surrounding the injury.

The doctors report that a 16-year old boy developed a tumor from a cut caused by a broken fluorescent tube. They believe the tumor was due to beryllium inside the tube.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Disease Control of the State Department of Health for April 1949, as compared with the same month in 1948, and for the period of January through April 1949 compared with the same period in 1948, is as follows:

	April 1949	April 1948	Jan.-April 1949	Jan.-April 1948
Typhoid and paratyphoid	11	11	25	41
Diarrhea and dysentery	215	270	1,099	1,188
Measles	5,395	656	15,364	2,714
Scarlet fever	78	90	317	431
Diphtheria	10	12	52	83
Poliomyelitis	1	2	8	6
Meningitis	11	11	40	37
Undulant fever	5	8	19	29
Rocky Mountain spotted fever	2	0	2	0
Tularemia	0	1	7	20

BRUCELLOSIS

The eradication of human brucellosis is dependent upon the eradication of brucellosis in livestock —principally cattle, swine and goats. There is no evidence of human-to-human transmission. The amount of human brucellosis occurring annually is not easily determined, but with approximately 4,000 diagnosed cases reported in the United States annually, it is estimated that there are probably 40,000 cases unrecognized.

In Virginia the reported cases averaged 35 for the period of 1936-1946. The cases reported for 1946, 1947 and 1948 were 70, 74 and 82 respectively. There have been 12 deaths reported from brucellosis since 1939.

Two human groups are especially liable to brucellosis infection:

1. Those who handle infected animals on the farm, in slaughterhouses and in meat handling plants.

2. Those who use contaminated raw milk and its products. In Mexico, the principal factor in high incidence is the widespread use of goat's milk and cheese from animals infected with B. melitensis.

At the recent Southern States Brucellosis Conference in Memphis, Tenn., Dr. Raymond Fagan, of the Harvard School of Public Health, gave a preliminary report of findings in an Indiana Survey of positive reactors among animals and humans. From this survey, begun in 1946, the following findings in six Indiana Townships are significant:

7,700 cattle tested ---------- 5½% reactors
2,900 swine tested ----------5 % reactors

Of 1,700 persons tested 1,100 gave histories of contact with animals, and 600 no histories of such contact. Of the contacts there were found to be:

500 men ---------- 3% reactors
300 women ---------- 1% reactors
300 children (200 boys) -- 2% reactors
(100 girls) -- 0% reactors

Among the 600 persons who did not come in contact with animals, there were no positive reactors. The following figures are significant, among workers with animals and among plant workers:

500 veterinarians ---------- 28% reactors
142 rendering plant workers -- 27% reactors
400 slaughterhouse workers --- 13% reactors

Of floor workers, 30% reacted, in striking contrast to 1% in truck drivers, and 0% in clerical and office workers.

These figures demonstrate the importance of contact with infected animals as a factor in the spread of brucellosis to man.

It has been demonstrated that cattle can be infected by both Brucella melitensis and Brucella suis. However, it has been the general belief that Brucella abortus is not pathogenic for swine. Now come McCullough, Eisele and Pavelchek, who report* the recovery of B. abortus from the lymph nodes of 8 hogs. Confirmation of this finding will be awaited with interest.

In a series of 193 cases of brucellosis in humans, Dr. A. L. Braude, of the University of Minnesota Medical School, reports the organism involved as follows:

B. abortus, 84.5%, B. suis 7.8% and B. melitensis 6.7%

In the treatment of brucellosis, Aureomycin has given dramatic results in acute cases.

**Public Health Reports*—April 29, 1949.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... MRS. R. M. REYNOLDS, Norfolk
President-Elect ..... MRS. C. E. HOLDERBY, Hilton Village
Recording Secretary ..... MRS. T. S. CHALKLEY, Richmond
Corresponding Secretary MRS. CHARLES LUPTON, Norfolk
Treasurer ..... MRS. REUBEN SIMMS, Richmond
Parliamentarian ..... MRS. H. W. ROGERS, Norfolk
Historian ..... MRS. M. H. HARRIS, West Point

Norfolk.

Mrs. Mallory S. Andrews, President of The Woman's Auxiliary to the Norfolk County Medical Society hit a high note of city-wide interest in presenting a Public Relations-Health Education Meeting on April 26th.

850 printed invitations were sent to women's organizations, lay people and doctor's wives. The press and radio spot-lighted the meeting with excellent publicity for about a week and more than 500 were present.

At the morning session, Dr. Thomas N. Spessard, Norfolk psychiatrist and neurologist, spoke on Prevention of Mental Illness. He emphasized the basic emotional reactions, which are factors in producing mental disorders and the importance of increasing the general understanding of mental disorders as a whole in order to utilize this knowledge in their prevention.

Dr. Granville L. Jones, Superintendent of The Eastern State Hospital, Williamsburg, discussed The Treatment of Mental Illness, and stated that mental illness can best be described as a disease in a personal social adjustment and such a disturbance can arise from either physical, intellectual or emotional causes, thus making it necessary to treat a psychotic patient in each of these ways.

Following this a panel discussion on Alcoholism was given by Dr. James Asa Shield, of Richmond. Dr. Shield, affirming alcoholism as a serious personality disturbance said the drinking of alcohol contributes to chronic degenerative conditions of the liver, kidney, brain and other organs. He pictured an alcoholic as being probably the most miserable of all sick people. The first goal in treating a sufferer is to get the patient to admit that he is an alcoholic. He can only be helped when he acknowledges that he needs help.

Concluding the morning session, a member of The Tidewater Group of Alcoholics Anonymous spoke on the magnitude of the public health and economic problem facing the country. Of 58,000,000 users of alcohol, 3,750,000 are excessive drinkers and 800,000 are recorded chronic alcoholics. There are many more contributing to a conservatively estimated loss to industry of one billion dollars in production and 24 million man-hours of work per year. The A.A.s claim qualified recovery for approximately 75% of those who give their method a sincere trial.

At the afternoon session Mr. John Tatem, Director of Safety Patrol of Tidewater Automobile Association, Norfolk, spoke on Safety and Traffic Education.

Mr. Fenton Jordan, City of Norfolk Engineer, then spoke on Engineering and cited the race between death and safety that has been going on for many years, adding safety is the winner.

The concluding discussion was a most vigorous talk given by Captain W. L. Grath, Captain and Safety Engineer of Virginia State Police, Richmond. He reviewed the cost of traffic accidents in Virginia, with reference to economic aspects, people killed and injured. Education, Engineering and Enforcement are the three slogans of the Virginia Traffic Program. His Department employs trained engineers to consider the physical aspects of what might have contributed to accidents and carries out a program for all officers. It has even taken to the air—Virginia has three light planes, which reduce time to a minimum in spotting trouble on the many highways. Enforcement of traffic laws and regulations is the kind friend of every law-abiding citizen and is the bulwark of the Democracies.

JOSEPHINE T. HORTON,
(Mrs. Albert G. Horton)
Chairman of Publicity

Danville-Pittsylvania.

The Auxiliary celebrated Doctor's Day April 2, with a cocktail party and dinner at the Hotel Burton. There were sixty present. Dr. C. W. Pritchett was especially honored because he has practiced medicine in Danville for over fifty years.

Dancers from the Ann Boyer school of dancing presented several numbers during dinner. The highlight of the evening was the projecting on a large screen various amusing photos of the doc-

tors present. Original poetry which accompanied each photo brought gales of laughter. Group singing accompanied by Mrs. Asa Viccellio brought the party to a close.

On April 7th, the auxiliary met with Mrs. Roy Upchurch with 19 members present. The following reports were submitted:

HYGEIA—Mrs. D. L. Arey, Chairman, reported 17 one-year subscriptions, and one three-year subscription. The Auxiliary has placed it in the following centers: Langston High School, (colored) the white and colored Y.M.C.A.'s and Y.W.C.A.'s, and the Schoolfield Y.M.C.A.

MEMBERSHIP—Mrs. T. J. Moran, chairman, reported 40 members this year as against 33 last year.

RUMMAGE SALES—Mrs. M. H. McClintic, chairman reported $203.85 made on the March sales. Plans were discussed for the May sale.

DOCTOR'S DAY—Mrs. C. A. Easley and Mrs. W. E. Overcash gave joint reports regarding the financial status of the party.

A motion was carried that the Public Relations Committee with the help of every member further the wishes of the national organization to oppose Socialized Medicine in and around Danville.

A recommendation was made that the delegate to the state meeting in October suggest that the state dues be raised so that the Auxiliaries will not be called on for additional contributions.

It was voted to contribute $5.00 to the State Maintenance Fund, and $5.00 to the Jane Todd Memorial Fund.

Dr. Samuel Newman, local pediatrician, then spoke on "The Historic Trend of Child Welfare".

MRS. CARL W. WHITE
Publicity Chairman

Northampton-Accomack.

The April meeting of this Auxiliary was held at the home of Mrs. W. Carey Henderson in Nassawadox with Mrs. John R. Mapp as co-hostess. Following luncheon and a social hour, Mrs. R. M. Reynolds, State President of the Auxiliary, spoke on "The Menace of Socialized Medicine, Its Cost and Implications". Mrs. William T. Green, Jr., who presided in the absence of Mrs. Sturgis, then read "A Step in the Wrong Direction" by Dorothy Thompson. Routine business included the announcement of an award of $10.00 to the Auxiliary putting on the most unique, interesting and well-planned "Doctors Day" program.

The next meeting of the Auxiliary will be held at the cottage of Mrs. J. E. Gladstone at Silver Beach.

BOOK ANNOUNCEMENTS

Aesculapius Comes to the Colonies. The Story of the Early Days of Medicine in the Thirteen Original Colonies. By MAURICE BEAR GORDON, M.D. Ventnor Publishers, Inc., Ventnor, N. J. 1949. xiv-560 pages. Illustrated. Cloth. Price $10.00.

Child Health Services and Pediatric Education. Report of the Committee for the Study of Child Health Services, The American Academy of Pediatrics. With the cooperation of the United States Public Health Service and the United States Children's Bureau. The Commonwealth Fund, New York. 1949. xxv-270 pages. Cloth. Price $3.50.

Cardiac Catheterization in Congenital Heart Disease. A Clinical and Physiological Study in Infants and Children. By ANDRE COURNAND, M.D., Associate Professor, Department of Medicine, College of Physicians and Surgeons, Columbia University; JANET S. BALDWIN, M.D., Assistant Professor, Department of Pediatrics, New York University College of Medicine; and AARON HIMMELSTEIN, M.D., Instructor, Department of Surgery, College of Physicians and Surgeons, Columbia University, The Commonwealth Fund, New York. 1949. viii-108 pages. Illustrated. Cloth. Price $4.00.

Clinical Urology. Essentials of Diagnosis and Treatment. By LOWRAIN E. McCREA, M.D., F.A.C.S., F.I.C.S., Clinical Professor of Urology, Temple University Medical School; Attending Urologist, Philadelphia General Hospital. Second Edition. Philadelphia, F. A. Davis Company, 1948. xii-503 pages. With 263 Illustrations, 7 in Color. Cloth. Price $6.50.

The second edition of Dr. McCrea's excellent book follows the general outline of the first, with some amplification and addition of diagrams. The subject matter is concise, well outlined, and presented in an understandable manner. The accepted treatments for urological diseases are up to date.

The book is highlighted by very satisfactory descriptions of office urological procedures and examinations. Each major urological operation is also described for general knowledge, but perhaps not well enough for a surgeon.

It is recommended without qualification as an outstanding book for students, as well as practicing physicians, who desire a positive compendium of urological disease and treatment.

DONALD GILBERT

EDITORIALS

Joseph Lister (1827-1912)

FEW of us realize how comparatively new aseptic surgery is. We can remember when Dr. Halsted first began using rubber gloves. Dr. George Ben Johnston was a senior medical student in New York when Lister came to this country in 1876 to talk on antiseptic surgery. It was commonly spoken of as Listerism. Before this era it was rare for a wound to heal by "first intention." "Laudable pus" was a common and much sought after phenomenon. When blood vessels were ligated the ends of the silk ligatures were left long and were brought out of the wound so that they could be removed when they sloughed off. Surgery was chiefly of the extremities—amputations, and of the surface of the body. Surgery of the body cavities was too hazardous to warrant its frequent employment. With erysipelas and gangrene rampant, hospitals had a fearful mortality. The work of one man changed all this.

The great Quaker surgeon, the father of aseptic surgery, was born at Upton, Essex, on April 5, 1827. His father was a scientist of note who perfected the achromatic lens and improved the compound microscope. Upon graduating in London, Lister went to Edinburgh and served as house surgeon under Syme. Three years later he married Syme's daughter, and soon afterwards was made assistant surgeon to The Royal Infirmary. He was appointed to the Chair of Surgery at Glasgow in 1860. It was in Glasgow that he learned of Pasteur's work proving that microbes were the cause of putrefaction, and at once saw the significance of this work for surgery. In 1869 he succeeded his father-in-law as Professor of Clinical Surgery in Edinburgh. In 1877 he went to London as Professor of Surgery at King's College. He retired from practice in 1896 but not from scientific studies. From 1895 to 1900 he was President of the Royal Society and in 1896, President of the British Medical Association. In 1883 he was created a baronet and in 1897, was raised to the peerage as Baron Lister of Lyme Regis. In 1902 he was nominated an original member of the new Order of Merit. The name of the British Institute of Preventive Medicine, of which he was one of the founders, was changed to the Lister Institute of Preventive Medicine.

Early in his career Lister became interested in the study of inflammation and the coagulation of blood. His first paper, shortly after he became Assistant Surgeon to the Royal Infirmary, was on "The Early Stages of Inflammation." His Croomian lecture to the Royal Society in 1863 was upon the coagulation of the blood. When Dr. Thomas Anderson in 1865 called his attention to Pasteur's investigations on fermentations, Lister at once set to work to devise means of keeping microbes out of wounds. His first experiment made in 1865 was upon a compound fracture and the agent he used was carbolic acid which he applied to the wound undiluted. He reported his results in 1867 in the Lancet. He then directed his attention to mitigating the escharotic effect of carbolic acid and to improve ligatures. Eventually he adopted first carbolized catgut and finally sulphochromic catgut. He improved surgical dressings and in an attempt to provide an atmosphere free from germs in the operating room he introduced his famous spray of 5 per cent solution of carbolic acid.

Lister's work was quickly accepted on the Continent, especially in Germany, but as usual with great medical discoveries it met with opposition at home. Scotland at the time had a National Health Service. Lister was excluded from the government employment because "the Minister of Health had been fully informed . . . that the

use of carbolic acid, since it prevented the formation of laudable pus, was inimical to the patient. . . . The Minister of Health then rose to say that he was proposing to introduce regulations making the use of carbolic acid and similar substances, loosely described by Mr. Lister as 'antiseptics' (whatever that might mean) illegal."

Synthetic Chloromycetin

THE announcement of a synthetic chloromycetin by the Parke, Davis Laboratories provokes a number of reflections. This is the first time that an antibiotic has been manufactured chemically. It reminds one of the time Dr. John Abel first made epinephrine synthetically. Diethylstilbestrol belongs to a slightly different category in that it is not identical with estrogen chemically but only clinically. Each, however, demonstrates that the scientist is not entirely dependent on living processes to manufacture antibiotics and hormones. When synthetic means are discovered, manufacture in quantity is simplified.

Chloromycetin was discovered by Dr. Paul R. Burkholder of Yale in an extract of Venezuelan mold. Drs. Quentin R. Bartz and John Ehrlich of the Research Laboratories of Parke, Davis and Company isolated it in crystalline form. This was reported in October 1947. The drug was found to have rickettsiostatic properties when tested in infected chick embryos. Many *Monthly* readers will recall the thrilling report of the clinical tests on scrub typhus in Malaya that Dr. Theodore E. Woodward told of at a recent meeting of the Richmond Academy of Medicine. Through a fortunate error in diagnosis the drug was found to be effective for typhoid fever which is also endemic in the Malay States. The only difference is that it takes three or four days for the fever of typhoid to subside. This was so constant that it was used as a check in the differential diagnosis of the two diseases. The Army research team will again go to the Southwest Pacific to compare the synthetic chloromycetin with the crystalline product.

The rickettsiae are micro-organisms that resemble the viruses in that they grow only within living cells. Most of them are slightly too large to pass through fine bacteriological filters. Five diseases are recognized as being caused by the rickettsiae: (1) Epidemic typhus (louse borne) (classic European, old world typhus); (2) Endemic or murrine (flea borne) (Mexican typhus or Brill's disease); (3) Scrub typhus (mite borne) (Tsutsugamuski disease, Japanese river fever, tropical typhus, mite fever); (4) Spotted fever (tick borne) (Rocky Mountain spotted fever, tick fever, black fever, blue disease), and (5) Q fever.

Scrub fever, unlike the other types of typhus fevers, had no good means of prophylaxis. There was no vaccine for it, nor poison for the mites. For this reason chloromycetin is especially valuable. It seems to be a specific remedy for rickettsial diseases. It also offers great promise in some of the bacterial diseases, such as typhoid fever, Brucellosis and gas bacillus infections. On account of the prevalence of spotted fever in the South Atlantic States these investigations will be watched with especial interest by Virginia doctors.

South of the Border

SOUTH of the Rio Grande there is an attractive land that Americans to the North would do well to know better. It is a land of contrasts, surprises and contradictions. It has developed great artists who paint in bold contrasting colors. Its architects build the most beautiful renaissance museums, baroque churches or ultra modernistic apartment houses. Thirty per cent of Mexico's people live in one-room shacks with mats on the earth floor for beds, and the scantiest sanitary provisions. About one-sixth belong to the privileged class with incomes from $150 a month up. A family with $150 a month income can have a three-room apartment, one or two servants and a car. At $300 to $500 the apartment enlarges and the car is of more recent vintage. In Mexico City and Cuernavaca we saw very lovely homes attesting great wealth. Ninety-nine per cent of the people are Catholic and yet when the people gained control of the government they confiscated all church property, and the activities of the priests were drastically limited and clerical garb was banned. The church now operates with entire liberty save for the threatening shadow of the anti-clerical law of 1917 which still stands. The churches are filled with devout worshippers.

Mexico has a civilization that antedates ours by a century and its civilization supplanted several highly developed native civilizations that extended back to prehistoric times. We saw one pyramid, the plateau pyramid of Ciuciuleo that was built about 5000 B.C. by an unknown race. Remains of Maya, Toltec and Aztec civilizations are abundant in stone carving and pottery, especially. Examples of wood carving, tapestry and feather work are rare since these substances are more perishable but enough is known to excite wonder at the skill of these stone age people. At Teotihuacan which is supposed to be the site of the capital of the Toltec nation we saw the huge pyramids to the Sun and the Moon and some wonderful Toltec carvings in the Ciudadela at the south end of the area that covers some eight square miles.

Mexico City is the oldest city in America, founded as it was by the Aztecs in 1325. A part of the Aztec capital still survives near the cathedral in the form of a portion of the Great Temple of the God of War. The National University dates back to 1533. The first printing shop in the Western Hemisphere, established by Giovanni Paoli about 1539, was pointed out to us. We went into the patio of the House of the Count of Santiago, erected shortly after the Conquest. It is built of pink tezontle and has massive carved doors leading into the patio which is entirely surrounded by balconies and has a grand stairway on one side. Gargoyles are in the form of cannon. We were told that when this house was built one had to get a royal permit from Spain in order to build a two-story house. Almost across the street is the Hospital de Jesus Nazareno built of similar pink volcanic stone. It was founded by Cortes in 1524 on the spot where he first met Montezuma. The hospital has been in continuous operation since that time and we saw patients sitting on its pleasant galleries that surround its two patios, and white coated doctors going back and forth. Its board room has an original portrait of Cortes. . . . In this connection it should be stated that Mexico has a wonderful Childrens' Hospital and a Cardiology Institute, both housed in ultra modern buildings.

Mexico City is situated in a broad flat plain 7,400 feet above the sea level. In the dry season this arid plain looks neither tropical nor mountainous. Although we were in the tropics we slept under blankets. Overlooking the city is Chapultepec Park and Castle. We were standing on the terrace overlooking the beautiful panorama of the city at our feet when our guide pointed out a new security hospital going up in the

foreground. We asked her what the people thought of social security. She replied in no uncertain terms that they did not like it. In the first place they did not like the compulsion and her Castilian accent left no doubt but that she really meant compulsion. In the second place they got very little value for their payroll deductions.

The people of Mexico have even less sanitary security. Guide books warn you against raw fruit. Outside of the cities, water, ice, milk and butter are said to be unsafe. Of our party of twelve who went on a two day trip to Taxco, three were taken sick on the trip and two others were known to have gotten sick afterwards. Our hotel was ultra modern in structure and appointments. The waiters were continental in costume and suavity, and yet we saw them emptying the left over drinking water into a waste bucket, polish the glass with a napkin and replace it on the table for the next customer.

The Mexicans are descendants of fierce man-eating Indians or their equally fierce and arrogant Spanish conquerors. Surprisingly, the present day Mexicans are gentle, polite, amiable people, the very embodiment of patience. Apparently they love flowers, for the markets are filled with all sorts and they are indeed beautiful. The bougainvillaea and the climbing geraniums bloom all the year. The jacaranda, a blue plumbago vine and the royal poinciana as well as myriads of roses, carnations and gladioli give color to the suburbs. Mexican children are wonderfully well behaved. During Holy Week the churches and market places and public squares were filled with them. We did not see a cross or peevish child. Altogether Mexico makes an almost perfect vacation land. It has exotic beauty, interesting and varied architecture, age old culture, historic back ground, a wonderful climate, and a polite people.

Medical Home Missionaries

IN the April *Monthly* we suggested that Home Missions might play an important role in supplying physicians in certain rural areas. We now find that this has already been done by the Lutheran Church at Konnarock, at the foot of White Top Mountain in southwest Virginia. For years the Southern Mountain Mission Work has attempted to meet the medical as well as the spiritual needs in this area. At first they depended on nurses who did the best they could to promote clinics by non-resident physicians, hauling patients long distances over rough mountain roads to town, and supplementing the treatments of the physicians to the best of their ability. In 1940, a modern medical center was built by the Lutheran League of America. It has waiting rooms, offices, examination rooms, X-ray room, laboratory and a two bed emergency ward, and a physician's apartment. The equipment is modern in every respect.

Dr. Heinz Meyer, a German refugee, was employed as resident physician. According to the *Konnarock Echoes* the greatest health problem is malnutrition and much of the doctor's time is devoted to educating the people in nutrition and how to grow the right kind of food. A deaconess nurse is connected with the clinic and she and Dr. Meyer have developed an efficient maternity service. With the help of locally trained midwives they deliver 90 per cent of the babies in their homes. The mothers attend the prenatal clinic and complicated cases are delivered at the Center. A better-baby clinic is conducted at the Center. After six years Konnarock Medical Center is almost self-supporting. What it has done in the way of elevating the health standards of the community is incalculable.

SOCIETIES

Richmond Academy of Medicine.

The third annual J. Shelton Horsley Memorial Lecture at the Richmond Academy of Medicine was delivered on April 26th. Dr. A. C. Broders, director of the division of surgical pathology at the Mayo Clinic, Rochester, spoke on "Functioning Cancer". He is a graduate of the Medical College of Virginia and has been awarded the honorary degree of doctor of science by the College. During 1935 and 1936, Dr. Broders served as professor of surgical pathology and director of cancer research at the Medical College of Virginia.

The J. Shelton Horsley Memorial Lectures were established in memory of Dr. Horsley by his son, Dr. Guy W. Horsley. They are given each Spring at the Academy of Medicine by outstanding men in the fields of surgery, pathology and physiology.

Arlington County Medical Society.

At a special meeting of this Society, held on March 24th, Dr. William P. Howard of Albany, New York, was the speaker. He is a director of the American Association of Physicians and Surgeons, and the Arlington Society has recently joined several other Virginia societies in endorsing this Association.

Dr. John T. Hazel is president of the Arlington Society and Dr. John B. Leary is secretary-treasurer.

The Mid-Tidewater Medical Society

Held its second quarterly meeting on April 26th at Gloucester Court House, Dr. M. H. Harris of West Point presiding.

The question of formation of "Health Councils" in the various counties was discussed and it was decided that the Vice-Presidents from the several counties represented should explore the feasibility of the formation of these councils in their counties and that further discussion would be held at the next meeting.

The proposal that a joint meeting be held with representative laymen was discussed, but no action was taken.

Dr. T. Dewey Davis presented a paper on Rheumatoid Arthritis which was well received and the discussion was participated in by most of the members present.

The meeting was adjourned to meet in Urbanna on July 26th.

WILLIAM H. HOSFIELD
Secretary

The Fourth District Medical Society

Met at the Central State Hospital, Petersburg, on April 19th. The effect of the government's proposed prepaid medical plan on private practice was outlined by Dr. M. Peirce Rucker, President of the Medical Society of Virginia. Other speakers included: Dr. John T. T. Hundley, Lynchburg, Chairman of the education campaign for the state society; Dr. Walter B. Martin, Norfolk, a trustee of the American Medical Association; Dr. Benjamin W. Rawles, Jr., Richmond, chairman of the committee on hospital care of the Richmond Community Council; and Mr. Henry S. Johnson, director of public relations of the state society. Dr. Fletcher J. Wright, Jr., Petersburg, conducted a panel discussion on the effects of the medical plan proposed by President Truman.

Dr. J. A. B. Lowry, Crewe, is president of this Society, and Dr. William S. Sloan, Petersburg, secretary-treasurer. Dr. William Grossmann, Petersburg, is chairman of the steering committee.

NEWS

The Virginia Peninsula Calls All Doctors!

Members of the Medical Society of Virginia, your annual meeting October 9 to 12 will be held in one of the nation's showplaces—the Virginia Peninsula—down where America got started. When you open your sessions at the Chamberlin Hotel on Old Point Comfort you will be standing on the ground where the first settlers paused briefly on their way to Jamestown. Here, the old chronicler relates, "They found a channel which put them in good comfort." Plan to come several days in advance of the meeting (or stay on afterwards) to take in the many fascinating attractions which the Virginia Peninsula offers to you.

From the Chamberlin's door you will gaze upon the thrilling panorama of Hampton Roads, one of

the world's greatest natural waterways. Cargo steamers bound for Marseilles, Buenos Aires and Hong Kong glide slowly toward the sea trailing plumes of black smoke. Gray battleships and aeroplane carriers ride sullenly at anchor. Hard by the hotel is Fortress Monroe where Jefferson Davis' place of confinement is commemorated. The sister cities of Newport News, Hampton and Phoebus, which are linked together like Siamese triplets, will bid you welcome. Hampton which was founded in 1610 is the oldest continuous settlement in English-speaking America. It was the birthplace of the first president of the Medical Society of Virginia, James McClurg (1747-1823).

In old St. John's Church which is much frequented by tourists, you will find a lovely stained glass window in memory of George William Semple (1810-1883), thirty-third president of the Medical Society of Virginia. Many of our Peninsula doctors are inveterate sailors. They will be pleased to see that the aquatic-minded among you enjoy the pleasures of the Hampton Yacht Club of which Dr. Russell Buxton is the commodore. To the north of Hampton is Langley Field and the National Advisory Committee for Aeronautics where scientists toil night and day in the giant wind tunnels to unlock the secrets of the air. High in the sky shooting swift and straight like wild geese you will see flocks of jet planes whose speed is faster than sound.

In Newport News you may visit the giant shipyard which has built some of the nation's most famous naval vessels and passenger ships. This is where the carriers, Yorktown, Hornet and Coral Sea were built. Here the keel of the $189,000,000 supercarrier, The United States, was laid before construction was abandoned by order from Washington. Tours of the yard will be made available to you. One of the world's most remarkable museums is the Mariner's Museum located just outside of Newport News. Everything pertaining to ships from the dawn of history to the present time has been collected. For you golf enthusiasts there is a Golf Museum at the James River Country Club, which is one of the finest outside of St. Andrew's, Scotland. Only a short run up the Peninsula are the historical shrines of Williamsburg, Jamestown and Yorktown. See the remains of the old church at Jamestown on whose site Pocahontas was baptized and married to John Rolfe. Visit the famous Williamsburg Restoration. Go over the battlefield at Yorktown, also inspect the nearby Moore House where Cornwallis' surrender was arranged (this is the original building.) Guided tours of these attractions can be arranged. The Virginia Peninsula is also a noted playground. It has unexcelled facilities for swimming, boating, fishing and golfing.

The Warwick County Medical Society led by Dr. George S. Grier, III, and assisted by the Elizabeth City County Medical Society of Hampton and Phoebus is going all out to make your stay a memorable one. The local Woman's Auxiliary led by Miriam D. Bradley and backed by Sarah Holderby, President-elect of the State Auxiliary, is planning things for your ladies to do. So put it on your calendar—annual meeting of the Medical Society of Virginia, Chamberlin Hotel, Old Point Comfort, October 9 to 12. Come and see us down here in "The Nation's Cradle".

CHESTER D. BRADLEY, M.D.

Scientific Exhibits at Annual Meeting.

Dr. Vincent W. Archer, University of Virginia, Charlottesville, who is chairman of Scientific Exhibits of the Medical Society of Virginia, would like for those doctors interested in having an exhibit at the annual meeting at Old Point Comfort, October 9-12, to contact him as soon as possible. Applications for exhibits will be accepted as long as space is available—of course, the best spaces will go to those who apply first.

Southern Pediatric Seminar.

The 29th annual session of this Seminar will be held at Saluda, North Carolina, July 18-30. The course is a post-graduate, summer course in methods of diagnosis, prevention and treatment of diseases of children. It is designed primarily to fit the needs of the general practitioner and the practical application is stressed. The lecturers represent some of the outstanding pediatrists in the South, who volunteer their services to create a teaching center where the most advanced information in this important branch of medicine is presented. Dr. Ambrose McGee, Richmond, is a member of the faculty. For information and registration, address M. A. Owings, secretary-treasurer, Saluda, North Carolina.

Dr. H. J. Warthen, Jr.,

Richmond, was elected to membership in the American Surgical Association at its meeting held in Saint Louis in April.

News from University of Virginia School of Medicine.

On April 1st, under the auspices of the Post-graduate Program for House Officers, Dr. John S. Lundy of the Mayo Clinic lectured to the faculty and student body on the subject: "Anesthesiology Offers Many Opportunities".

Dr. James F. Brailsford of Birmingham, England was guest speaker at the meeting of the Virginia Radiological Society, held at the University of Virginia Hospital on April 2. He spoke on the subject: "Diagnosis of Bone Tumors".

On April 4th, the Post-graduate Program for House Officers presented as guest speaker Dr. Charles H. Best, University of Toronto. The subject of his lecture was "The Pancreas, The Guardian of the Liver".

Dr. Oscar Swineford, Jr., spoke on the subject, "Some Problems of Bacterial Allergy", at the meeting of the Southwestern Allergy Forum, held in El Paso, Texas on April 4th and 5th.

Dr. H. B. Mulholland addressed the Harrison County Medical Society, in Clarksburg, West Virginia, on April 7th, on the subject, "Modern Treatment of Diabetes Mellitus".

Dr. Nicholson J. Eastman, Professor of Obstetrics, Johns Hopkins Medical School, delivered the first Annual Tiffany Johns Williams Memorial Lecture on April 8th. The title of Dr. Eastman's lecture was "The Placental Barrier".

Dr. H. Rowland Pearsall has been promoted to Assistant Professor of Internal Medicine and designated Coordinator of the Cancer Program, effective April 1.

Dr. Page Booker has been appointed Instructor in Pediatrics on completion of his residency on July 1.

"In Tribute to the American Doctor"

Is beautifully portrayed in the Philip Morris spread in the advertising pages of this issue. They invite you to send for a copy suitable for framing. Display it in your reception room—your patients will enjoy reading it.

The Virginia Society of Ophthalmology and Otolaryngology

Held its thirtieth annual meeting in Richmond on May 14th, under the presidency of Dr. W. Wallace Gill, Richmond. The following program was presented: Uveitis by Dr. M. Elliott Randolph, Baltimore (invited guest); External Otitis by Dr. M. H. Hood, Portsmouth; Clinical Observations on a Common Dermatological Problem by Dr. Thomas W. Murrell, Jr., Richmond (invited guest); Clinical Observations as Viewed by the Allergist by Dr. J. Warrick Thomas, Richmond (invited guest); Management of Primary Glaucoma by Dr. William P. McGuire, Winchester; Venous Thrombosis by Dr. H. S. Hedges, Charlottesville; Melkersson's Syndrome by Dr. Francis H. McGovern, Danville; Carcinoma of the Pterygium by Dr. H. Grant Preston, Harrisonburg; and The Haag-Streit Binocular Microscope by Dr. Elbyrne G. Gill, Roanoke.

Dr. Rachel F. Weems,

Formerly of Harrisonburg, will open her office in Ashland on July 1st where she will specialize in physical medicine and minor orthopedics. She has been in Pittsburgh, Pennsylvania, for the past five years where she has been working under Dr. Jessie Wright, a consultant for the National Foundation of Infantile Paralysis, and head of the D. T. Watson Home for Crippled Children. Dr. Weems has been assistant in physical medicine at the Children's Hospital and on the staff at the D. T. Watson Home. She has also done special work in cerebral palsy, arthritis, back and foot conditions and peripheral vascular disease.

Married.

Dr. H. Ward Randolph and Mrs. Lucy Taylor O'Neale, both of Richmond, April 23rd. They will make their home at "Warwick" in Lilian.

Dr. William A. Cover, Elkton, and Miss Margaret Isabella O'Keeffe, Grundy, April 18th. He is a graduate in medicine of the University of Virginia, class of 1947.

Dr. Henry Chesley Decker and Miss Margaret Fisher, both of Baltimore, April 23rd. He graduated from the Medical College of Virginia in 1947.

Dr. Ernest Randolph Trice, Baltimore, and Miss Virginia Dorsey, Richmond, May 7th. Dr. Trice is a graduate of the Medical College of Virginia in 1947.

Dr. Robert D. Keeling,

Class of '46, Medical College of Virginia, after nearly three years' service in the Navy, has located for practice at South Hill.

Health Department News.

Dr. E. D. Hardin was recently appointed Health Officer for the Page-Warren-Shenandoah Health District with headquarters at Luray. Dr. Hardin was formerly Health Officer of the Pittsylvania County Health Department located at Chatham.

Dr. William H. Kelly,

Now director of the Norfolk Mental Hygiene Center, will become director of the Memorial Guidance Clinic, Richmond on August 1st. He is a graduate of Marquette College, Michigan, class of 1935, and has been in Norfolk since 1946. This appointment brings to a close a director search that has lasted more than a year since the death of Dr. Harvie Coghill in February 1946.

Dr. John Edgar Stevens,

Class of 1941, Medical College of Virginia, has located for practice at 2608 Monument Avenue. His practice will be limited to internal medicine with a sub-specialty of hematology.

The Gill Memorial Eye, Ear, and Throat Hospital,

Roanoke, has completed its Twenty-Second Annual Spring Graduate Course, and had a registration of 250 doctors from all parts of the United States and Canada. The next course will be given beginning April 3, 1950.

Post-Graduate Course.

The Harvard Medical School announces a post-graduate course in Modern Treatment of Fractures and Other Traumatic Conditions to be held at the Massachusetts General Hospital, October 24-November 3, 1949. This course is covered by the G.I. Bill of Rights. For further information write Assistant Dean, Courses for Graduates, Harvard Medical School, 25 Shattuck Street, Boston.

Wanted.

Eye, ear, nose and throat doctor to practice with group in Virginia. Unopposed territory and excellent opportunity. For particulars write "Specialist", care the Monthly, 1200 East Clay Street, Richmond 19. (*Adv.*)

For Rent.

Desirable office, centrally located in Richmond. Reasonable. If interested, dial 5-3267, or address "Office", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

Doctor Wanted

To take over well equipped, eight room doctor's office, with well established practice in eastern North Carolina town of 3000 population. Modern hospital 18 miles distant on route 301 South. If interested write Harrison Drug Company, Enfield, North Carolina. (*Adv.*)

OBITUARIES

Dr. Lewis Mines Allen,

Well-known obstetrician of Winchester, died May 2nd after a long illness. He was seventy-six years of age and received his medical degree from the University of Maryland in 1896. Perhaps one of his most celebrated cases was while he was at the University of Maryland when he delivered Wallis Warfield, now the Dutchess of Windsor. Dr. Allen had taken a prominent part in the civic and medical life of Winchester and Clarke County, having been city health officer and for a number of years chief marshal of the Apple Blossom Festival. He had been a member of the Medical Society of Virginia for thirty-nine years and was at the 1948 meeting, made a member of the Fifty Year Club. His wife and three sons survive him.

The following resolution was adopted by the Medical Staff of the Winchester Memorial Hospital.

Dr. Lewis M. Allen died at Winchester Memorial Hospital on the morning of Monday, May 2, 1949, in his seventy-sixth year. He was a valued member of the medical staff of the said hospital over a long period of years, and, therefore, our close friend and associate. Through the medium of the hospital, and in his office practice he worked with constant and undiminished eagerness for the comfort and well being of humanity, and more particularly as a prominent specialist in obstetrics and gynecology.

In the practice of his profession, in his home, in his church, and in his community he exhibited untiring zealousness to do good, and his was a high purposeful character, wholly unimpeachable. To justly appraise the value of Dr. Allen's talents, his success in his chosen profession, and his influence among those with whom he lived and worked, one needed only to know this gentle character, and to look at the record of his achievements, which was lengthy and genuinely wholesome.

With a distinguished background of a family that had long been prominent in affairs in Clarke County, Virginia, and Jefferson County, West Virginia, it was only natural that Dr. Allen was constantly inspired to attain success in everything that he undertook. A certain incident in his own early experience moulded his decision to devote his life's work to obstetrics and the application of treatment designed to greatly lessen the perils of child birth, and to that end he succeeded most admirably.

All of us who knew and worked with Dr. Allen respected and admired him. He was possessed of a sense of honor which was never conscious of temptation. His devotion to his loved ones, to his patients, his friends and his associates was a paramount guide in the conduct of his life.

We who belong to the medical profession, and who compose the medical staff of the Winchester Memorial Hospital, along with his countless thousands of friends and admirers mourn his loss, and pledge ourselves to emulate as far as possible the many virtues which our beloved friend and associate possessed, and therefore unanimously adopt this Resolution of sympathy in memorium to our friend and associate at this our regular monthly meeting held this 4th day of May, 1949.

Dr. Daniel Dodson Willcox,

Prominent eye, ear, nose and throat specialist of Petersburg, died April 18th after an illness of several weeks. He was seventy-two years of age and a graduate of the former University College of Medicine, Richmond, in 1901. Dr. Willcox was a past president of the Petersburg Medical Faculty and had been a member of the Medical Society of Virginia for forty-five years. His wife survives him.

The Petersburg Medical Faculty acknowledges with deep regret the loss of one of its oldest and most beloved members, Doctor Daniel Dodson Willcox, whose death occurred April 18, 1949, at the Petersburg Hospital. Dr. Willcox had been in active practice for forty-five years and limited his work to diseases of Ear, Eye, Nose and Throat.

BE IT THEREFORE RESOLVED that the Petersburg Medical Faculty wishes to express to the family of Dr. Willcox their sincere sorrow in his untimely passing; that the Medical Profession, particularly the Speciality of Ophthalmology and Otolaryngology, has suffered a great loss. From the beginning of his specialization, in which he was a pioneer in this community, he gave freely of his time and talents and his attractive personality endeared him to his patients as well as to his professional colleagues. The community has lost a valuable citizen and the medical profession a talented and beloved physician who will be greatly missed.

BE IT FURTHER RESOLVED that a copy of these resolutions be sent to his family, to the local paper, recorded in minutes of Petersburg Medical Faculty and to the VIRGINIA MEDICAL MONTHLY.

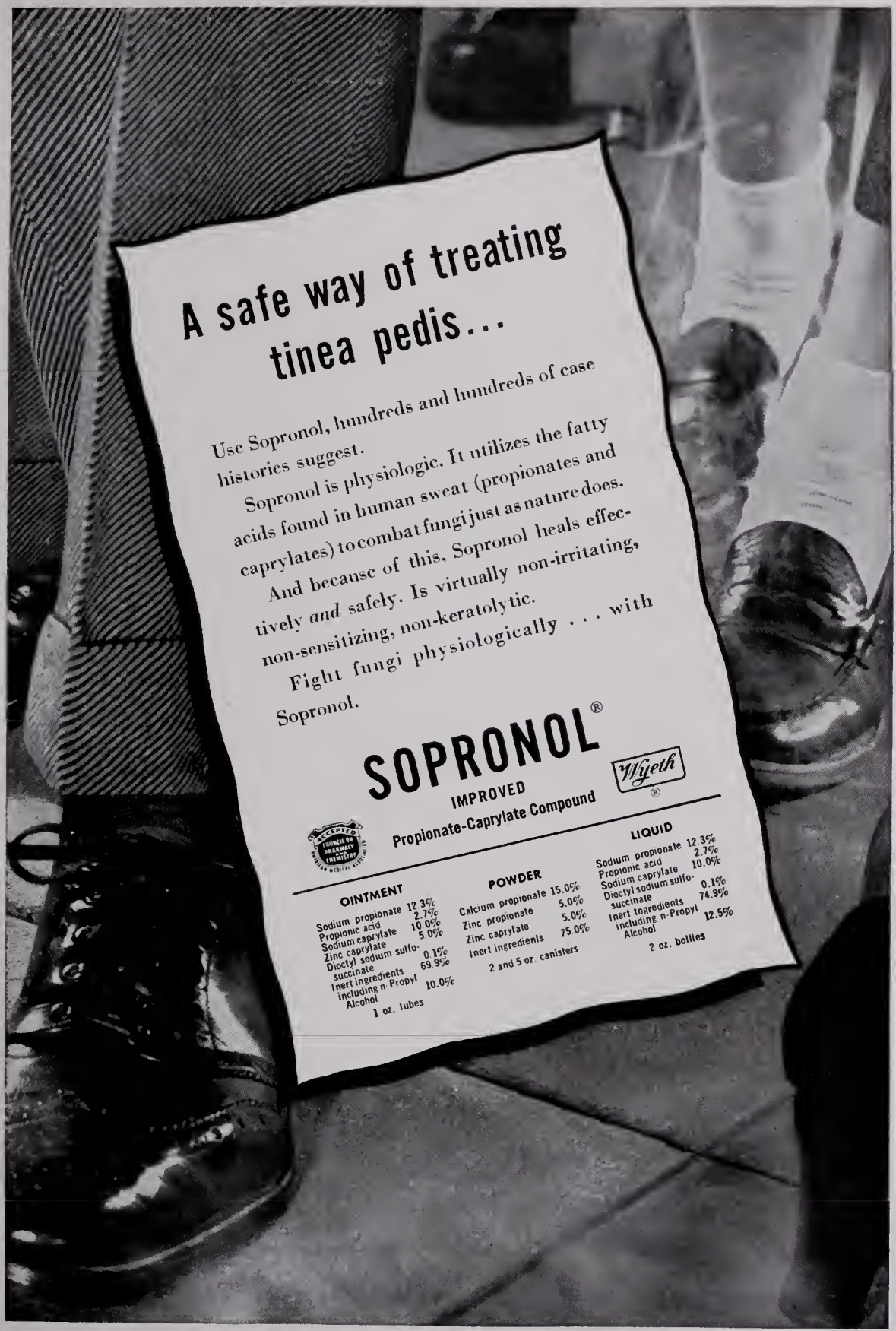
CHARLES S. DODD, *Chairman*
MEADE C. EDMUNDS
GEORGE H. REESE

Dr. Walter Fitzgerald Hartman,

Well-known physician of Swoope in Augusta County, died April 8th. He had been in bad health for several months and was in Florida at the time of his death. He was eighty-six years of age and received his medical degree from the University of Virginia in 1889. He served as Captain in the first World War and had practiced in Augusta County until his retirement several years ago. Dr. Hartman had served as president and secretary of the Augusta County Medical Society and had been a member of the Medical Society of Virginia for fifty-six years. He was made a member of the Fifty Year Club at the 1948 meeting of the Society. His wife survives him.

Dr. Spurgeon Boone Moore,

Portsmouth, died May 2nd, shortly after he suffered a heart attack. He was fifty-seven years of age and a graduate of the Medical College of Virginia in 1918. Dr. Moore had lived in Portsmouth for thirty-one years where he specialized in eye, ear, nose and throat. He was active in civic affairs and served for a time as a member of the city council. His wife and a daughter survive him.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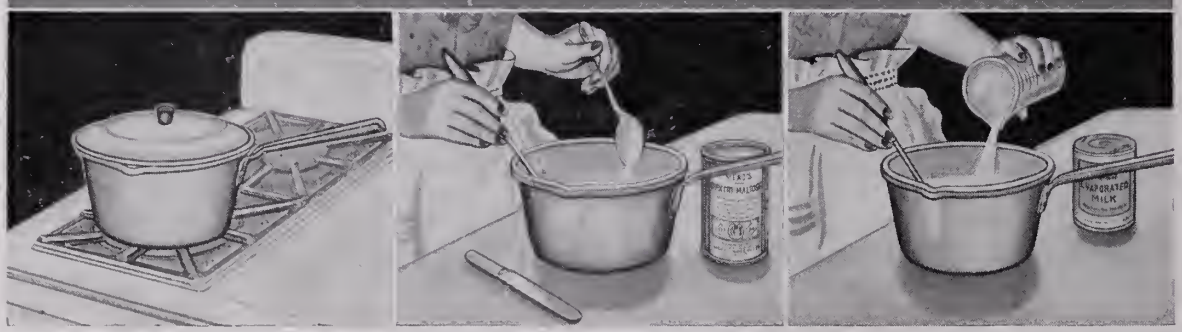

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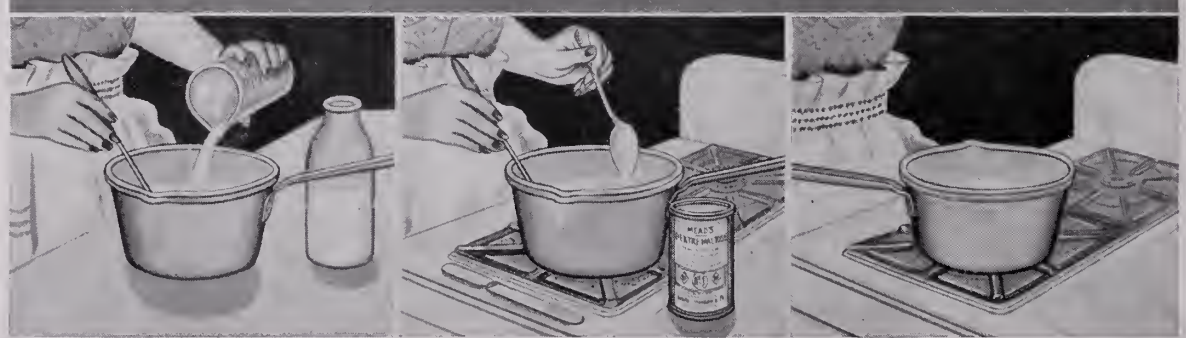

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CONTENTS

Guest Editorial. J. Morrison Hutcheson, M.D. ---------- 327

Vascular Hypertension. John C. Hortenstine, M.D., William P. McGuire, M.D., E. Willis Lacy, Jr., M.D. and Monford D. Custer, M.D., Winchester, Va. ---------- 329

Diagnosis and Treatment of Carpal Injuries. George Cooper, Jr., M.D., and Charles J. Frankel, M.D., Charlottesville, Va. ---------- 336

The Injection Treatment of Internal Hemorrhoids. Robert V. Terrell, M.D., and C. C. Chewning, Jr., M.D., Richmond, Va. ---------- 340

Acute Thrombocytopenic Purpura Following Massive Hormone Therapy in a Pregnant Diabetic. Duvahl R. Ridgway, M.D., Roanoke, Va. ---------- 344

Influence of Stilbamidine in Multiple Myeloma with Pre-Existing Renal Involvement—Case Reports. J. David Markham, M.D., Joseph R. Kriz, M.D., and John P. Williams, M.D., Richmond, Va. ---------- 347

The Role of the Liver in Blood Coagulation. M. L. Dreyfuss, M.D., Clifton Forge, Va. ---------- 356

Surgical Treatment of Acute Gallbladder in the First 72 Hours. Moses Behrend, M.D., F.A.C.S., F.I.C.S., Philadelphia, Penn. ---------- 359

Continued on page 6.

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July, 1949

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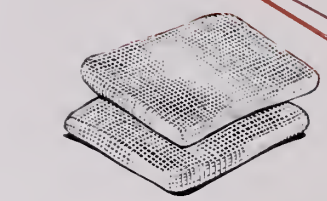

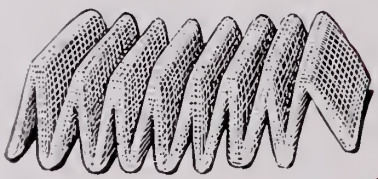

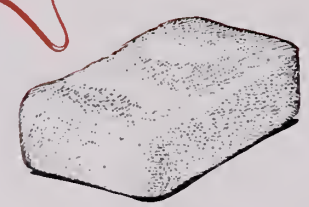

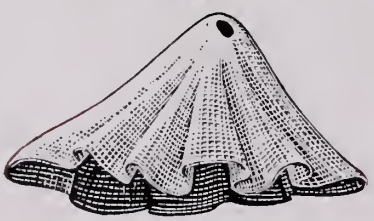

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GUEST EDITORIAL

Lower Nephron Nephrosis

THE syndrome known as lower nephron nephrosis has received considerable attention in recent medical literature. It consists of acute renal failure that often follows a state of shock and, in a large proportion of cases, progresses to uremia with a fatal termination. Numerous causes have been held responsible, including transfusions with incompatible blood, crushing injuries to muscles, operative shock, hemorrhage, burns, uteroplacental damage, and poisons, particularly sulfonamides and carbon tetrachloride.

The clinical features and pathologic changes of lower nephron nephrosis follow a rather characteristic pattern. With or without an antecedent period of shock, initial symptoms are apt to include nausea, vomiting, abdominal pain and weakness, to be followed, often insidiously, by oliguria or anuria. Later developments are rising blood pressure, increasing non protein nitrogen, acidosis and edema. In most fatal cases pulmonary edema has been found as a terminal event, while in the cases that recover, diuresis tends to appear on the fifth to the thirteenth day.[1]

The kidneys show edema with precipitation of pigment casts in convoluted and collecting tubules and degeneration of tubular epithelium. There is no significant change in the glomerular capillaries. Changes in the tubules have been noted thirty-two to seventy-six hours after onset and progress up to the fifth day or longer. Available evidence indicates that re-epithelization of the tubules, though imperfect, is completed generally within two weeks of onset. Though the persistent oliguria may be due in large part to cellular damage, there is strong evidence that functional disturbance of renal blood flow with resulting cortical ischemia plays an important role.[2]

Renal damage in lower nephron nephrosis is acute, with a very definite tendency to tissue regeneration and functional recovery. Moreover, this takes place within a period sufficiently short to permit survival even in the presence of greatly diminished kidney function. During the stage of severe oliguria, diuresis cannot be provoked by any known means and attempts to do so are apt to be harmful. Kidney decapsulation has seemed occasionally useful, but reported cases indicate that this measure has been successful only when the operation has been done after the eighth day or at a time when spontaneous recovery is to be expected. The problem then in therapy is not to produce diuresis but to keep the patient alive until some degree of healing and recovery of function occur.

It is generally agreed that the practice of flooding the body with large quantities of fluid is contra-indicated, as it does not induce diuresis and increases the likelihood of fatal pulmonary edema. Most observers believe that fluid intake orally or by infusion should be limited to the estimated loss of body fluid by vomiting and otherwise. Nutrition should be maintained by blood transfusions during the period of shock or in the presence of anemia, by adequate diet if it can be taken, and by glucose parenterally, together with water soluble vitamins. Sodium chloride is indicated if the

blood chloride is diminished and sodium lactate when evidence of acidosis appears. For delaying the accumulation of toxic excretory products, the artificial kidney or peritoneal lavage have been employed with apparently satisfactory results, but for obvious reasons these measures have not come into general use.

Hoffman and Marshall[3] have recently published an account of six cases of lower nephron nephrosis treated according to the principles outlined above with one interesting addition. Recovery in five of the six cases warrants serious consideration of the method proposed. The procedure of these workers for retarding the accumulation of toxic excretory products was the careful induction of edema of nearly normal electrolyte composition for the purpose of diluting the toxic substances, and was accomplished by additional fluid and sodium chloride. This idea is theoretically plausible and brings up the question as to whether or not the edema found in acute nephritis may be a conservative process. However, experimental observations such as those of Barry, Shafton and Ivy[4] on nephrectomized dogs are not wholly confirmative. Their findings led to the conclusion that while the giving of sodium chloride prolongs life, the production of edema is of no particular value.

Apparently lower nephron nephrosis is identical with "crush syndrome" and "traumatic uremia", previously described. From the number of cases reported, it is certain that the condition is fairly common and that it results in an extremely high mortality. Though much remains to be learned of the underlying pathological physiology, treatment based on knowledge already at hand offers considerable promise of prolonging life in many patients until spontaneous recovery takes place.

J. MORRISON HUTCHESON, M.D.

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1. Straus, Maurice B.: Acute Renal Insufficiency Due to Lower Nephron Nephrosis. *New England Journal of Medicine,* November 4, 1948.

2. Trueta, Josep, *et al.:* Studies of Renal Circulation, C. C. Thomas, Springfield, Ohio, 1947.

3. Hoffman, W. S., and Marshall, D.: Management of Lower Nephron Nephrosis, *Archives of Internal Medicine,* March, 1949.

4. Barry, Shafton and Ivy: Experimental Edema in Nephrectomized Dogs, *Archives of Internal Medicine,* February, 1933.

VASCULAR HYPERTENSION*

JOHN C. HORTENSTINE, M.D.,
WILLIAM P. MCGUIRE, M.D.,
E. WILLIS LACY, JR., M.D.,
and
MONFORD D. CUSTER, M.D.,
Winchester, Virginia.

Etiology—DR. HORTENSTINE

Elevation of the blood pressure may be observed in a great many diseases and under many different circumstances. The normal blood pressure is 120 mm. of mercury systolic and 80 mm. of mercury diastolic with the allowable upper limits of 150 mm. systolic and 90 mm. diastolic. It should be emphasized that these limits are set for the blood pressure of a person at physical and mental rest. During severe physical exertion, the blood pressure rises precipitously and it is estimated that levels as high as 200 systolic and 110 diastolic may be reached. During our routine work, we are daily impressed with the fact that emotional upset may elevate the blood pressure and frequent readings must be made to properly evaluate many of these patients.

Elevation of the systolic pressure with a normal or low diastolic blood pressure is commonly encountered and in the majority of instances is due to arteriosclerosis, particularly that affecting the aorta and other large arteries. With the sclerotic process there is a gradual loss of the normal elasticity of the vessel wall and, instead of expanding to accommodate the influx of blood during systole, the arterial tree acts as a rigid tube and a high pressure develops. This pressure is transient, however, and it is rare that one encounters any of the stigmata of true hypertension (cardiac enlargement, cerebral accident or renal failure) in these cases.

In cases of aortic regurgitation, the drop in diastolic pressure is the most striking finding, but in many instances the systolic pressure is found to be elevated. Several factors may play a part in this phenomenon. In the first place, the wall of the aorta is usually involved in the same process which affects the valve and we have again a rigid tube substituted for the elastic tube which is normally present. Secondly, a portion of the systolic output of the heart regurgitates into the ventricle during diastole. As a result, the ventricle dilates and hypertrophies to produce a compensatory increase in the output of the heart. Because of the increased output per beat, a systolic pressure greater than normal is developed.

The increase in systolic blood pressure observed in individuals with a marked sinus bradycardia or in patients with complete heart block, is also due to an increase in the output of the heart per beat. There is an increased filling of the ventricle during the long diastolic period, followed by more complete emptying of the heart during the prolonged systole which accompanies a slow heart rate.

Hyperthyroidism is usually accompanied by an increase in the pulse pressure and a definite elevation of the systolic blood pressure is frequently encountered. There is a marked increase in the blood flow of the hyperthyroid patient which may be as much as 50% above the normal at rest. This increase in blood flow is due both to the increased pulse rate, and to the increase in the output of the heart per beat. Here again, with an increase in the volume of blood ejected from the heart during systole, there is a corresponding increase in the systolic blood pressure.

An arterio-venous aneurysm, if large, may produce a number of changes in circulatory dynamics due to the shunt of arterial blood directly into the vein. We have a situation here similar in its effects to that seen in aortic regurgitation. Because of a loss of a portion of the systolic output of the heart, there is a consequent increase both in heart rate and in the output of the heart per beat. Because of this latter finding, there may be an increase in the systolic blood pressure.

The physician daily encounters patients who may show systolic hypertension on the basis of the causes discussed above. It is important that the elevated

*From the Departments of Internal Medicine, Ophthalmology, and Surgery, Winchester Memorial Hospital, Winchester, Va.

*Presented at monthly Staff Conference, Winchester Memorial Hospital, Winchester, Va., October 27, 1948.

systolic pressure be recognized for what it is, a useful sign indicating a derangement of circulatory dynamics. Every effort should be made to determine the underlying pathology. It should be emphasized that the elevation of the blood pressure in itself is not important, but rather that its seriousness is dependent only upon the type and extent of the primary lesion. These cases should neither be considered as true hypertension nor be so labelled.

Diastolic hypertension is very commonly encountered and in approximately 95% of the cases its cause is unknown and is so spoken of as "essential hypertension". The elevation of the diastolic blood pressure may range from 90 to 160 mm. of mercury. In the usual case, the systolic pressure will vary between 190 and 250 and on occasion reach as high as 300 mm. of mercury. The fundamental cause of this elevation is a generalized vasoconstriction with an increase in the peripheral resistance to blood flow and a consequent elevation of blood pressure, both systolic and diastolic. The effective peripheral resistance is located at arteriole level, and it is at this point that maximal vasoconstriction occurs. In its early stages, the variations in blood pressure may be transient and easily overlooked. The later course is very variable, occasionally a spontaneous cure is encountered, more commonly the blood pressure becomes fixed as is observed in the ordinary clinical case, and, finally, it may progress with remarkable rapidity to produce the so-called malignant hypertension. In the early stages there may be no apparent pathological change noted but sooner or later evidence of damage to the small arterioles can be demonstrated with subsequent involvement of the arteries. As this organic damage progresses, the narrowing of the arterioles becomes relatively fixed and the hypertension, accordingly, is irreversible. With the progress of the disease, death will eventually result, either from heart failure, renal failure or cerebral accident.

In a few cases of diastolic hypertension, the underlying cause of the vasoconstriction is known and can be recognized after careful study. In any neurological condition which is accompanied by increased intracranial pressure, there may be an associated hypertension. In this case the compression of vessels about the brain stem reduces the oxygen supply to the vasomotor center which results in a generalized vasoconstriction and elevation of the blood pressure. Similarly in certain types of adrenal tumor or hyperplasia, there may be a marked elevation of blood pressure. This is probably due to an intermittent discharge of large amounts of adrenalin into the blood stream producing a generalized vasoconstriction. As a rule, this type of hypertension occurs in definite paroxysms but on occasion a sustained elevation of blood pressure may be produced.

Hypertension may be present in almost any type of kidney disease. In some cases this may be primarily vascular, the hypertension arising from renal ischemia. The vascular lesion itself may be in the heart as in congestive heart failure, in the aorta as in coarctation, in the main renal artery as in stenosis or thrombosis, or in the renal arterioles as in periarteritis nodosa. In other cases the primary lesion involves the renal parenchyma and hypertension is commonly observed in advanced chronic glomerulonephritis, chronic pyelonephritis and in polycystic disease. Finally, the hypertension may be due to any obstruction to the outflow of urine, whether this be at urethral or ureteral level.

Regardless of the site of the lesion which is interfering with renal function, the mechanism for the production of the hypertension is probably the same and results from the elaboration by the kidney of a vasoconstrictor substance which enters the circulating blood and produces a generalized vasoconstriction and hypertension. It is conceivable that such a series of events represent an attempt on the part of the body to maintain adequate blood flow to the kidney so that the kidneys' vital function may be preserved.

As stated above where no assignable cause can be uncovered, the hypertension is spoken of as essential and these cases constitute 95% of all diastolic hypertension. There is no doubt that the hypertension is due to a generalized vasoconstriction and increase in peripheral resistance. Experimental work can be quoted to suggest either, that this is primarily renal in origin, that it is primarily adrenal in origin, or that it is primarily neurogenic in origin.

Retinal Changes—DR. MCGUIRE

A recent report by a Committee of the American Ophthalmological Society presents the most complete and, I believe, the most accurate classification of retinal lesions in the presence of vascular hypertension. There are certain points in this report which should be given general circulation, and

I will here attempt to correlate some of the more salient features of the retinal changes.

There are three types of alteration which occur in the retinal arterioles in the different phases of hypertensive disease:

(1) Generalized narrowing (representing the generally increased tone of the arteriolar system).

(2) Sclerosis (thickening of the arteriolar wall).

(3) Focal constriction (spasm).

The old, and still commonly used term "retinitis", has largely been abandoned and the term "retinopathy" substituted. This newer term means the abruptly developing involvement of the retina characterized by serous and hemorrhagic extravasations into and under the retina. The serous extravasation may be represented by diffuse edema, by localized "cottonwool" patches, and by the more chronic punctate deposits considered to be the late results of edema. For the diagnosis of retinopathy, the presence of either cottonwool patches, edema, or edema residues is necessary. Thus, if either of these conditions is present the diagnosis of retinopathy can be made even though hemorrhages are not present; however, if hemorrhages are present without evidence of any of these manifestations of retinal edema, the presence of the hemorrhages should be noted but the diagnosis of retinopathy cannot be made. When edema of the nerve head occurs in association with retinopathy the term neuroretinopathy is generally accepted. The component elements of retinopathy are basically indentical in all forms of hypertensive and renal disease. Elevation of blood pressure in itself is the most essential factor in the production of the arteriolar and retinal lesions, although constriction of the systemic arterioles in response to some circulating vasopressor substance, or to a central reflex mechanism, may be a factor in initiating the rise in blood pressure. Therefore, practically identical lesions can occur both in primary essential hypertension and in hypertension secondary to acute or chronic glomerulonephritis, toxemia of pregnancy, unilateral atrophic kidney, pyelonephritis, pituitary basophilism, adrenal tumor, periarteritis nodosa and the like.

GRADING OF LESIONS OF RETINAL ARTERIOLES

Generalized narrowing of arterioles.

Grade 1. Reduction of caliber of arterioles to ¾ average caliber or ½ caliber of veins.

Grade 2. Reduction of caliber of arterioles to ½ average caliber or ⅓ caliber of veins.

Grade 3. Reduction of caliber of arterioles to ⅓ average caliber or ¼ caliber of veins.

Grade 4. Arterioles thread-like or invisible.

Focal constriction or focal sclerosis of arterioles.

Grade 1. Localized narrowing to ⅔ caliber of proximal segment of arteriole.

Grade 2. Localized narrowing to ½ caliber of proximal segment.

Grade 3. Localized narrowing to ⅓ caliber of proximal segment.

Grade 4. Arteriole invisible beyond point of constriction (or in the case of focal sclerosis visible only as a thin, fibrous cord).

Generalized sclerosis of arterioles.

Grade 1. Brightening or increased luster of the arterioles; mild depression of the veins at the point of arteriolar crossing, with reduction in visibility of those portions of the veins which underlie the crossing arterioles.

Grade 2. Burnished coppery color of the arterioles, with definite depression of the underlying veins, widening of the apparent arteriolovenous crossing spaces and almost complete invisibility of those portions of the veins which underlie the crossing arterioles.

Grade 3. Polished silver color of the arterioles, widening of the apparent arteriolovenous crossing spaces with a change in the course of the veins ("right-angled crossings"), complete invisibility of those portions of the veins which underlie the crossing arterioles and distal dilation of the veins.

Grade 4. Arterioles visible only as fibrous cords, without blood stream.

CLASSIFICATION OF VASCULAR HYPERTENSION

Terminology	*Diagnostic Lesions in Retina*
Neurogenic Hypertension.	None, even in cases of considerable duration, except, perhaps, mild generalized narrowing of arterioles.
Acute Hypertension ("Angiospastic")	No arteriolosclerosis. Generalized narrowing of arterioles. Focal constriction of arterioles. Edema of retina, cottonwool patches, hemorrhages (usually). Edema of disk (often). May terminate in recovery, in chronic hypertension or in rapidly progressive malignant hypertension.

Chronic Non-Progressive ("Benign") Hypertension	Only mild generalized narrowing of arterioles (Grade 1 or 2) if seen in early years. Also mild generalized arteriolosclerosis (Grade 1 or 2) if seen after several years duration of the hypertension. At times ischemic or hemorrhagic infarctions of retina.
Chronic Progresive Hypertension	Always generalized arteriolosclerosis. Generalized narrowing of arterioles. Focal constrictions in arterioles. At times focal arteriolosclerosis. At times cottonwool patches and hemorrhages in retina.
Terminal Malignant Hypertension	Always generalized arteriolosclerosis. Always papilledema. Generalized narrowing of arterioles. Focal constrictions in arterioles. At times focal arteriolosclerosis. Usually edema of retina, cottonwool patches and hemorrhages. Often residues of edema in form of macular stars or scattered punctate deposits.

Medical Treatment—DR. LACY

The medical management and treatment of essential hypertension is one of the many unsatisfactory chapters of therapeutics. The fundamental causes of essential hypertension are largely obscure and for the most part we can neither remove nor combat them. In many cases no means of treatment at our disposal will serve to lower the blood pressure for any significant length of time. In other cases the blood pressure may be lowered for a considerable period of time, but it should be remembered in such cases that we have been successful in treating the symptoms of hypertension rather than the cause of the disease. Statisticians estimate that half of the population over the age of forty will die of hypertension or its complications, and that there are 15,000,000 people with hypertension in the United States today. It is true that a certain percentage of hypertension patients will live a normal life expectancy without any apparent harmful effects from the disease. On the other hand, forty to fifty per cent of patients with essential hypertension will develop evidences of cardiac failure; somewhat less than forty per cent will manifest predominant involvement of the central nervous system; ten per cent will develop marked impairment of renal functions and die of uremia. In light of these figures, therefore, we should not assume too pessimistic an attitude toward the treatment of essential hypertension, for there can be no doubt that in many cases much can be done for the patient in the attempt to prevent various manifestations of the disease and in combating them when they arise. In most cases an attempt should be made to reduce arterial tension if this can be done by benign methods.

The success of medical treatment of essential hypertension depends upon an accurate appraisal of the type of high blood pressure present. In each patient the relative involvement of the heart, brain, or kidney or the complete absence of these manifestations must be determined. The treatment itself may be divided into (1) Psychotherapy, (2) Mental and physical rest, (3) Diet, (4) Drugs, (5) Operative procedures.

Psychotherapy—It is not meant by psychotherapy to subject every patient with essential hypertension to extensive psycho-analysis. The patient should be told as intelligently as possible the nature of his disease, and what he might expect from it. The value of the blood pressure reading should not be over emphasized, and should certainly not be made a criterion for judging improvement of the disease. It is probably wise to tell most patients what their blood pressure level is at all times. He will probably not worry as much as he would likely do if it hung as a mystery over his head. It is probably worth while to spend some time in listening to the personal troubles and difficulties of patients with essential hypertension trying to give them insight into their emotional conflicts, and in reassuring them.

Rest—Over exertion, excessive emotional strain, long hours of work, and loss of sleep aggravate essential hypertension. Rest is one of the most effective means of treating hypertension. Strain on the circulatory system and frequently the unpleasant symptoms such as headache and visual disturbances are relieved by this simple procedure. In order to achieve this, especially in very nervous patients, sedatives should be prescribed, alternating between the barbiturates and bromides. Again, this particular point may be frequently over emphasized to the extent that some patients are made to

think they are invalids, and others to worry more if they cannot find the time to rest as the physician has prescribed. The physician should be able to advise a regime which will best suit each individual patient.

When the first symptoms of cardiac insufficiency develops, such as dyspnea on exertion, orthopnea or, occasionally, paroxysmal nocturnal dyspnea, absolute bed-rest should then be insisted upon. The patient should be digitalized and in cases where chronic passive congestion is in evidence, the diuretics such as ammonium chloride and mercupurin should be used.

Diets—Generally speaking, hypertensives should not be restricted too strenuously unless obesity is present also. A patient who is over-weight should be made to reduce. In others, the diet should be moderate as to proteins, fluids and salt, but not restricted.

Certain types of diets have been used as a therapeutic measure to reduce the hypertension. Of these the most familiar is the rice diet, consisting of rice, fruit and sugar. No salt is allowed. It contains 2000 calories, 5 grams fat, 20 grams protein, derived from rice and fruit, and 468 grams of carbohydrates. Water is limited to 100 cc. daily.

The other type of diet which has been used therapeutically is the low sodium diet of Grollman. This supplies a larger amount of proteins, but the sodium intake is kept under 5 grams a day, and is accomplished by using milk, dialyzed free of sodium. This diet is, likewise, exceedingly difficult to follow, and the patients must be watched carefully for any signs of sodium deprivation.

Drugs—Edward Fries has advanced certain criteria for effectiveness of hypotensive drugs which I would like to list:

(1) That it should lower the blood pressure significantly in a fair proportion of patients.

(2) The hypotensive effect should be accomplished without serious detriment to the patient.

(3) Accompanying the hypotensive response there should be definite clinical indications of arrest, or preferably reversal of the disease, such as symptomatic relief, reduction in the cardiac size, and clearing of neuro-retinopathy.

(4) The drug should have a duration of action of at least eight hours; otherwise, it becomes necessary to administer frequent doses which interfere with the patient's normal habits, particularly with his sleep.

(5) It should be effective by mouth or at least by subcutaneous injections.

With these criteria in mind, it can be stated that such substances as extract of onions, mistletoe, garlic, and watermelon seed definitely have no efficacy in the treatment of hypertension.

A: *Nitrites and nitrates*—these substances will reduce the blood pressure in most cases of essential hypertension but their effect is so transitory that they are of little or no use in the treatment of this disease. If angina pectoris is a complication, then they are, of course, of great benefit in controlling this condition.

B: *Theobromine and other purine derivatives*—no notable effect on the blood pressure has been demonstrated by use of these drugs.

C: *Iodides*—any noticeable benefit is questionable.

D: *Thiocyanates*—because of the potentially highly toxic reaction which may result from administration of this drug, it should not be administered except in hospitals or certain clinics where accurate blood levels can be determined. The serum concentration should never exceed 12 mg. per 100 cc. The severe reactions are psychosis and exfoliative dermatitis; less toxic reactions, such as gastro-intestinal disorders, may result. The usual level of serum concentration advised is between 8 and 12 mg. per 100 cc.

E: Experimental work is being carried out in certain clinics on the so-called sympatholytic agents and their effect upon hypertension. A few of these only will be mentioned.

(1) *Tetraethylammonium bromide or chloride* (Etomon)—has been used therapeutically in certain peripheral vascular diseases, but is of little use in hypertension because its response is too brief.

(2) *Dibenamine*—a nitrogen mustard derivative and highly caustic, necessitating slow intravenous administration.

(3) *Pentaquine*—a synthentic derivative of plasmorchin—large doses are required for hypertension effect and are usually accompanied by toxic manifestations.

(4) *Dihydrogenation Alkaloids* of the ergo-toxin group—Dihydroergocornine (DHO 180)—supplies still limited to investigative work, but are the most promising of any of these agents so far.

F: *Veratrum viride*—excellent results have been reported from the use of this drug in a large number of patients. Recent studies of its clinical and pharmacological effects indicate that the hypotensive effect may occur in sub-toxic dosage and that there are no harmful effects upon the heart or kidneys in prolonged administration. It may be given parenterally or orally. The hypotension effect usually begins in one to two hours, reaches a maximum in 4 to 6 hours, and ends in 10 to 14 hours. Nausea and vomiting are undesirable side effects, and may occur with prolonged administration. Sometimes there might be a sense of tightness in the throat, excessive salivation and occasionally there may be paresthesia about the mouth, jaw, hands and feet. These undesirable effects can be relieved by administration of atropine. The ultimate value of these newer therapeutic agents must await the test of time.

Lastly, we should, in the proper medical management of the hypertension, give symptomatic treatment when this is required. Symptomatic treatment such as the relief of a headache will help a patient, and frequently give him the impression that his blood pressure has subsided. A great deal can be accomplished by symptomatic management to make the hypertension patient more comfortable and contented.

Surgical Treatment—DR. CUSTER

In concluding this discussion, I would like to do two things:

First—to mention one or two points in connection with the anatomy of the sympathetic nervous system, and to name the three operations which are principally employed.

Second—to summarize the results which are being reported following the use of one of these procedures, namely, the one which is designed for the control of the problem which we have for discussion tonight—high blood pressure—the so-called hypertension operation.

There are three operations which are performed so much more commonly than all others, that they may be considered for practical purposes as comprising the bulk, if not the entirety, of sympathetic system surgery.

1. There is one operation which is performed for the purpose of denervating the upper extremity —thoracic sympathectomy.

2. There is one operation which is performed for the purpose of denervating the lower extremity —lumbar sympathectomy.

3. The third operation is performed for the relief of hypertension and is known as thoracolumbar sympathectomy.

In performing thoracic sympathectomy, which incidentally is the most difficult of the three procedures technically, a so-called preganglionic resection of the second thoracic ganglion is performed for the relief of vasospastic disease of the upper extremity, principally for Raynaud's disease.

Lumbar sympathectomy is performed through a flank incision, and includes the resection of either two or three of the lumbar ganglia with the intervening segments of the chain. It is by far the easiest of the three procedures, and usually requires about 45 minutes or less from skin to skin. It is performed most commonly for the relief of vasospastic disease of the lower extremity, principally for Buerger's disease.

Thoracolumbar sympathectomy lies midway between the other two procedures in regard to technical difficulty, but is complicated by the fact that it must always be performed as a bilateral procedure, necessitating two separate major operations. In the Smithwick type of procedure, resection includes the sympathetic chain usually from the level of T-8 to L-2, plus the three splanchnic nerves.

Now, in turning to the surgical management of hypertension, I would like to refer for a moment to the historical development of the operative treatment. In 1925 Adson and Rowntree in Rochester, Minnesota, conceived the idea that a denervation of the splanchnic area might provide a bed of dilated vessels of small and medium calibre, thus creating a reserve pool to serve as a safety valve for the protection of more important vessels, principally those of the retina and brain.

Adson tried several tentative procedures, but it was Craig, also of the Mayo Clinic, who worked out the first really practical operation. In 1934 Craig devised a procedure for the resection of the lumbar sympathetic chain together with the greater splanchnic nerve and the celiac ganglia which was performed below the diaphragm and is known as the Craig-Adson operation, or subdiaphragmatic splanchnicectomy.

Then, in 1935, Dr. Max Peet, at the University of Michigan, conceived of and executed a more extensive resection performed above the diaphragm.

This supradiaphragmatic approach necessitated the resection of the 12th rib, but permitted removal of the lower five thoracic ganglia and all three splanchnic nerves.

And then, in 1940, Reginald Smithwick described an operation which is a combination of the Craig and Peet operations, and is known as thoracolumbar sympathectomy. This procedure, modified in various ways, is the one most commonly employed today.

There is a tendency toward more and more extensive resection. The leading voice in this trend is certainly that of Dr. Keith Grimson at Duke University, who is at the present time performing what amounts to practically a total sympathectomy on both sides. The results are not as yet available, and it will probably be several more years before we know whether this extensive type of surgery is or is not justified.

In surveying the surgical results, I think that there are two fundamental assumptions which we can make at the start which will help us to reduce the appraisal to a ground level from which we can secure a better take off.

The first is that it is obvious immediately that sympathectomy is *not* the ultimate answer to the hypertension problem. We all believe that the final answer lies in the direction of medical research, and that, when it comes, no surgical procedure of the magnitude of sympathectomy can, nor should, compete with it. But we also know that the solution may not be forthcoming in the near future, and perhaps not within this generation. Until it does, it would appear that surgery offers far and away the best means of control for the selected case.

The second assumption which I would like to make is that sympathectomy *is* an effective means of reducing blood pressure in most hypertensive patients. The figures which have most impressed me are the following:

In 1939, in the *American Journal of Medical Science,* Keith, Wagoner and Barker published a follow-up study of a very large series of hypertensive patients treated medically. Included in this series were some hundreds of patients who suffered from so-called "malignant hypertension", a form of the disease developing in young people and characterized by rapid progression, severe neuroretinopathy and one or more diopters of papilledema. They found that in this group 80% were dead at the end of one, 90% at the end of two years, and after five years the mortality was 99% if not 100%.

In Max Peet's series, there were included 112 cases of this same disease. The significant fact is that at the end of five years 19% were alive and reasonably well.

The best follow-up study following sympathectomy is that of Max Peet, because it is the largest. His cases have all been carefully followed from five to eleven years from the time of surgery. And I ask you to bear in mind the fact that these are cases subjected to what most surgeons now regard as being a limited operation.

These are his figures:

There were a total of 437 patients in the series (and incidentaly 82% had already progressed to serious organic disease).

Of the 437 patients, 57% were alive at the time of follow-up and 42% had died.

Of the 52% survivors 81% were considered as having attained a satisfactory result, 20% or so as having been failures. Or, expressing the results in terms of the original 437, not quite one-half obtained satisfactory five year results, the other half failing to survive or remaining unimproved.

If the hypertensive patient is under 45 with a reasonably decent cardiac and renal reserve, and has a fixed type of hypertension, yet one which will, upon the application of bed rest, or the administration of sodium amytal or tetraethyl ammonium chloride, show sufficient release to approach normal systolic and diastolic levels, it may be said that sympathectomy, while not the final answer, is probably the best answer we have at this time. Then we should acquaint that patient with the facts of his disease, and we may with confidence recommend surgery to him as offering him his best chance of remaining alive and of remaining well five years hence.

DIAGNOSIS AND TREATMENT OF CARPAL INJURIES*

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and
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Injuries to the carpal bones fortunately occur in only a small portion of the fracture cases treated at the University of Virginia Hospital.

We use the term "fortunately" because these injuries are most difficult to recognize and treat. Indeed, more than one-third of the cases referred to us represented injuries either misdiagnosed or entirely overlooked.

The carpal bones most commonly involved in injuries about the wrist are the navicular and the semilunar. Our discussion for the most part will be limited to injuries of these two bones.

PATHOLOGY OF NAVICULAR FRACTURES

Most of the fractures are transverse, usually in the long axis of the bone. All fractures of the body are intra-articular and are rarely displaced except when complicated by an anterior dislocation of the lunate. Few of the fractures are comminuted. Circulation is poor in the proximal portion, fair in the middle portion, and good in the distal portion.

DIAGNOSIS

There is considerable pain on the radial side of the wrist. The grip is weak and painful, and swelling is variable. Pain is more acute in the anatomical snuff box. The patient may venture his own diagnosis of severe sprain. Clinical diagnosis must in all cases be confirmed by roentgenograms. X-ray examination of the injured wrist is often referred to as a "simple procedure". It is common practice to depend on a posterior-anterior and a lateral projection to visualize the bones of the wrist. Since the carpus is part of the wrist, this examination is actually far from simple. It requires multiple projections and is frequently misinterpreted. What may, on physical examination, be taken to represent injury of the distal and of the radius or ulna, may instead be due to injury of a carpal bone. Also carpal injury may accompany injury of the distal end of the radius or ulna.

The anatomy of the carpus is so complicated that a posterior-anterior and a lateral projection do not visualize the bones completely. Oblique projections with the hand in semi-pronation and semi-supination are essential. For example, transverse linear fractures of the scaphoid are often visible only in semi-pronation because the forward tilt of the bone hides the fracture line in the anterior-posterior and lateral projections. (Figure 1.)

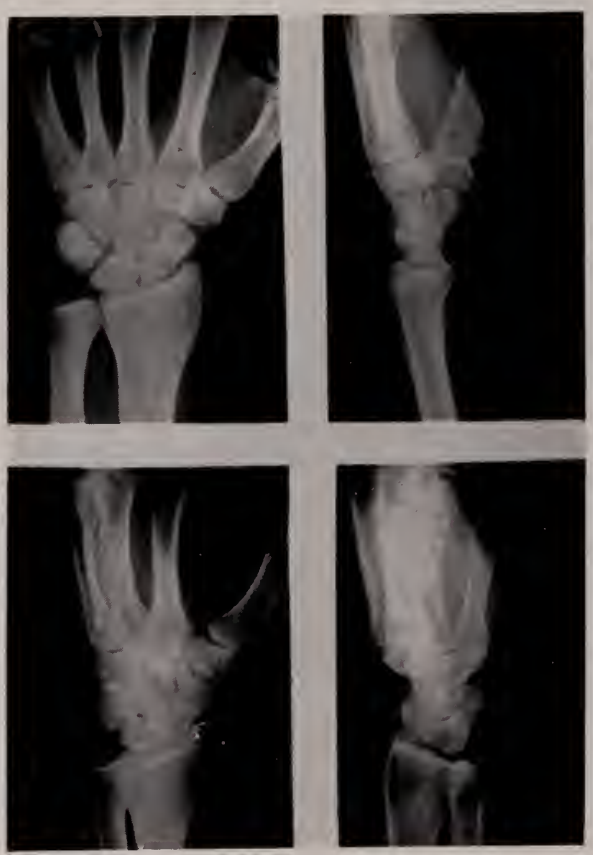

Fig. 1.—Complete transverse scaphoid fracture, visible in semi-pronation only.

No x-ray examination for suspected injury of the wrist is complete without examination of the carpus. Examination of the carpus requires a minimum of four projections.

From the Department of Roentgenology and the Department of Orthopedic Surgery.

*Read before the annual meeting of the Medical Society of Virginia, in Richmond, October 18-20, 1948.

TREATMENT

Displaced fractures should be treated by traction and immobilization. All fractures of the scaphoid must be immobilized in a snug plaster of paris cast which extends from the elbow to the metacarpal heads and must include the proximal phalanx of the thumb. The wrist should be moderately dorsiflexed and in slight radial deviation. The thumb should be slightly abducted and extended. Healing usually occurs in from seven to ten weeks. The cast should be changed if it becomes soft and loose. Immobilization must be maintained until there is x-ray evidence of union. One should not hesitate to prolong immobilization for as long as six months. The treatment of non-unions and delayed unions is beyond the scope of this paper.

Fig. 2A.—Examination immediately after injury. No abnormality demonstrated.

CLASSIFICATION AND PATHOLOGY OF SEMILUNAR INJURIES

The first type is the perilunar dislocation. This injury is one in which the semilunar is in relatively normal position and the distal row of carpals is displaced, usually in a backward and upward direction. The second type is the rotation dislocation of the semilunar, most often toward the palm. As the lunate becomes displaced, there is usually tearing of its ligament. When the anterior ligament is intact, it rotates the bone forward and upward. Rotation may vary from 90 to 250 degrees.

Fig. 2B.—Same case, two weeks later. Fracture scaphoid clearly visible.

DIAGNOSIS

The clinical findings should suggest a diagnosis in over 75 per cent of the cases; however, the final diagnosis must be made by x-ray. True laterals and anterior-posterior views are needed. When in doubt it is useful to take plates of the normal wrist for comparison.

There is an altered contour at the anterior sur-

face of the wrist, the fingers are maintained in slight flexion and the dislocated lunate may be palpated anteriorly. Motion of the wrist is painful. There is a variable amount of swelling in the wrist and fingers, and there may be median nerve involvement.

TREATMENT

Immediate manipulation is the treatment of choice, though reduction should be tried even in cases 10 to 14 days old. For the perilunar dislocation, maneuvers similar to those used for reduction of a Colles' fracture are suggested. A cast or anterior splint is applied from the elbow to the metacarpal head with the wrist in 30 to 50 degrees flexion. After four weeks of immobilization in flexion it is wise to change the position of the wrist to either 5 degrees of flexion or neutral, and immobilize for another 14 days.

The manipulative reduction of the fresh palmar semilunar displacement is a fairly standardized procedure which is adequately described in all of the acceptable fracture texts.

There are other methods of reduction which, in the hands of many operators, have given good results. We would warn against the so-called "broomstick" method which utilizes a broomstick rolled over the anterior surface of the wrist while traction and extension is made on the hand. Damage to the median nerve is not uncommon following this method.

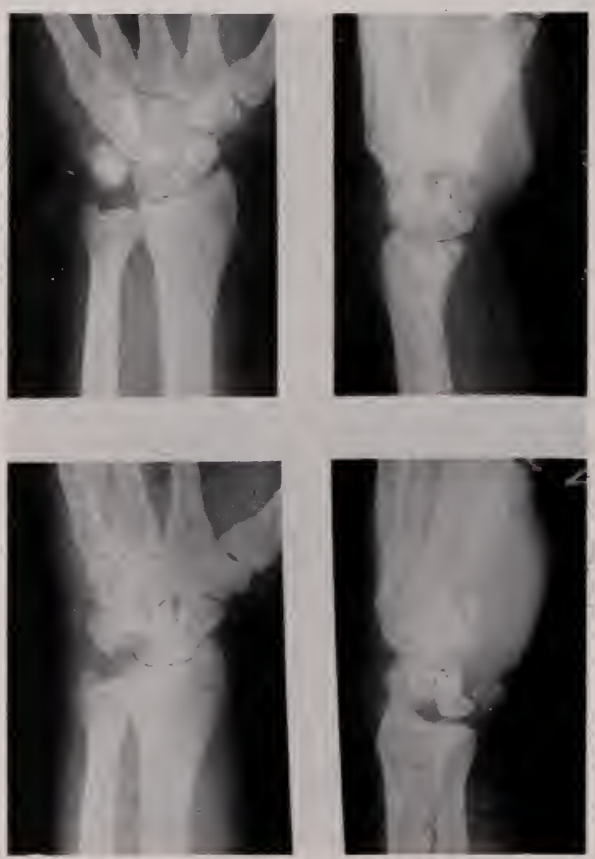

Fig. 3A.—Fresh palmar dislocation of lunate.

Fig. 3B.—Same case. Successful reduction.

X-rays should be taken at intervals of four weeks for a period of at least four months in order to rule out the presence of aseptic necrosis of the semilunar. While it is true that aseptic necrosis does not usually follow simple dislocations, but does occur after crushing injuries of the semilunar, this possibility should not be overlooked, especially for medical-legal purposes.

COMPLICATIONS

Delayed union, non-union, and aseptic necrosis following fractures of the scaphoid may be due to damage to the meager circulation. It can be stated with certainty that most of the complications arise either from failure to treat the fracture through lack of recognition or from inadequate immobilization. The wrist may be persistently painful, the grip weakened, and there may be a variable amount of traumatic arthritis in the radio-carpal area.

Aseptic necrosis of the semilunar often follows a crushing type of injury. Rough manipulation can be a causative factor. Delayed reduction may lead to permanent stiffness, fixed displacement, loss of motion in the wrist and fingers, and severe traumatic arthritis. Operative interference may be required because of failure of early adequate therapy.

SUMMARY

We have attempted to emphasize in this paper the hazards to function that accompany fractures of the carpal bones, particularly the navicular and semilunar. Early recognition depends on clinical acumen and accurate x-rays. A persistently painful wrist should be re-x-rayed in ten days despite primary negative findings. One should not hesitate when in doubt to x-ray the normal wrist. Many congenital abnormalies, among them the bipartate navicular, may be picked up in this way. Many textbooks fail to include perilunar dislocations of the wrist under their classification of lunate injuries. This injury is frequently mal-treated because it is unrecognized. Somewhat different reductive maneuvers are necessary in the treatment of this injury. The maneuvers necessary for the volar dislocations are not applicable to the perilunar injuries.

Immobilization of fractures of the navicular should be prolonged until there is union or little hope of union. So called "chronic sprains" of the wrist should create suspicion of the possibility of an overlooked navicular fracture. A persistently painful wrist with pain in the anatomical snuff box should have x-rays repeated in ten days despite a primary negative plate. It frequently requires that length of time for the fracture line to become visible.

DISCUSSION

DR. GEORGE COOPER, JR., Charlottesville: I should like simply to emphasize from the radiological standpoint that the important thing about carpal injuries is their recognition. The treatment was fully discussed by Dr. Frankel. We find that most of the difficulties in carpal injuries come from failure of recognition, and we find that those failures are due to incomplete radiological examination.

DR. GEORGE A. DUNCAN, Norfolk: While there is nothing new or startling in this paper by Drs. Cooper and Frankel, it does contain truths that bear repetition time and time again. Fractures of the carpal scaphoid and dislocations of the carpal semilunar are too frequently overlooked by not only the physician but also by the roentgenologist. The latter frequently does not have the history or the physical examination for his guidance, as the patient may have been seen only by the technician. Sprains of the wrist are rare. All injured wrists, therefore, should have X-ray examination, and if symptoms persist over seven to ten days another X-ray should be made. Time lost in making the diagnosis delays the proper treatment, and a poor result may be the outcome. Failure of diagnosis naturally may lead to legal responsibilities, as can be readily appreciated.

X-rays of the wrist should be made routinely in four planes, namely, antero-posterior, lateral, and right and left oblique. If there is any question at any time the opposite member should be X-rayed for comparison.

Most fractures of the carpal scaphoid will heal if treated early by reduction and a plaster cast, to include the thumb in abduction for eight to sixteen weeks. Most first- and second-degree dislocations of the carpal semilunar can be reduced by manipulation, whereas most third-degree dislocations must be removed surgically.

This is a timely paper and should be reread by all of us from time to time to remind us of our responsibilities.

THE INJECTION TREATMENT OF INTERNAL HEMORRHOIDS*

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and
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Although the treatment of internal hemorrhoids by the injection of sclerosing agents has been practiced for more than seventy-five years[1] and is well established as a procedure of merit, there persists, nevertheless, in the minds of many physicians, numerous misconceptions in regard to it which we shall attempt to correct.

The idea that the injection treatment is intended to "slough off" hemorrhoids is still prevalent and doubtless stems from its early days when the method was practiced almost exclusively by ignorant quacks who did indeed have this as their aim. They were unfamiliar with the use of the speculum and could treat only those hemorrhoids prolapsing outside of the body. As might be expected, the slough did not always stop with the destruction of the internal hemorrhoids, but, beyond any doubt, all too frequently extended into adjacent structures such as external hemorrhoids, sphincter muscles, and even the genito-urinary apparatus. The frightful pain and permanent deformities following such complications, together with the reprehensible exploitation of the pile sufferer by the charlatan, created within the ethical profession a so violent antagonism to the injection method as to greatly delay the widespread acceptance and use of the procedure.

To E. H. Terrell must go the credit[2] for lifting this most valuable method of therapy from its unsavory origins and placing it on a sound scientific basis, acceptable to the most scrupulously ethical proctologist, as well as for making it entirely safe for the patient. He did this by introducing in 1916 a new drug, quinine urea hydrochloride, for the injection of hemorrhoids. He reported[3] on his three years experience with it in a series of 128 cases, and clearly and accurately outlined the indications and contraindications for treatment as well as the technique, which prior to this had been a closely guarded secret. There were some eminent proctologists who resolutely refused to concede any merit to the injection treatment, but the staunch support by colleagues of more open mind and greater vision, as well as the numerous articles on the subject by E. H. Terrell[4,5,6,7] have done much to advance the method and remove the stigma cast upon it by the quack.

*Read before the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1949.

INCIDENCE AND ETIOLOGY

The true incidence of hemorrhoids in the general population is unknown, but it is high and of approximately equal distribution in the two sexes. Authorities do not agree as to the etiology, but the more we have studied the problem the more firmly are we convinced of the fallacy of the popular notion that "piles are caused by constipation". Certain it is that we see chronically costive patients without hemorrhoids, just as some of the largest hemorrhoids are seen in those to whom constipation is unknown. The real cause is probably a combination of heredity, the mechanical factors incident to the erect posture, and the results of inflammation. Of course, when hemorrhoids are present their symptoms are frequently aggravated by either constipation or the use of laxatives.

SYMPTOMATOLOGY

Usually the first symptom of internal hemorrhoids is bright red, fresh bleeding at stool. This is sometimes seen on the toilet paper in cleaning the parts, but more commonly is observed to color the water in the commode. It is not unusual for patients to report liquid blood dripping or even squirting from the anus at defecation. The passage of dark or clotted blood should make the physician suspect that its source is a lesion higher up in the bowel. In many cases the amount of blood lost is not great, whereas in others it is definitely in excess of blood production and thus produces a secondary anemia. In rare instances we encounter a patient almost exsanguinated by "bleeding piles" with hemoglobin determinations below twenty per cent. Because internal hemorrhoids are completely painless, the doctor is sometimes not

consulted until the anemia itself is severe enough to give symptoms.

The second symptom of internal hemorrhoids is protrusion; this, in the beginning, is usually during defecation and afterwards will replace itself, especially if the patient will lie down for a short while. As the condition progresses, protrusion may occur on exertion such as lifting, or when one assumes a stooping or squatting position, and will require digital replacement. If still untreated, eventually the time is apt to come when the hemorrhoids protrude and the patient is unable to replace them; this complication is known as strangulation and is usually accompanied by thrombosis and often necrosis as well. Other symptoms of internal hemorrhoids are variable and may consist of vague aching pains in the back and lower extremities, irritability and easy fatigability, or symptoms may be lacking altogether.

Choice of Sclerosing Agent

There are available many sclerosing chemicals which have been advocated for use in the injection treatment of hemorrhoids. Phenol in a vegetable oil is perhaps the oldest agent still in use and it is effective, though it does have certain disadvantages such as the occasional formation of oleomas, production of more pain, and a greater tendency to produce slough. Our experience has been largely limited to quinine urea hydrochloride which we have used daily for many years. For the past eighteen months we have used a preparation made by the Acme Scientific Co., of Richmond, Va., and marketed under the trade name of "Quinuride", which is a 4.5 per cent solution of anhydrous quinine urea hydrochloride adjusted to a pH of 2.6. We consider Quinuride to be more efficient than any preparation we have previously used and equally as safe. The results obtained have been highly satisfactory and free from complications.

Objective and Subjective Results Obtained

To properly understand the injection treatment one must keep in mind the fact that internal hemorrhoids are tumor masses within the lower rectum composed of varicose veins. Not infrequently these are seen as enormous masses protruding through the anus and on the outside of the body. Regardless of location, if they are covered by mucous membrane instead of skin, they are properly classified as internal hemorrhoids. Varicose veins are elongated, dilated, thin walled, and tortuous, with varying degrees of phlebitis present. The tissues drained by such veins suffer from the effects of chronic passive congestion with loss of elasticity and increased fragility, leading to surface erosion and ulceration.

When a small amount of "Quinuride" is injected into an internal hemorrhoid a fibrous tissue infiltration follows which produces shrinkage of the hemorrhoidal mass. By making repeated small injections at intervals the protologist can observe the hemorrhoid becoming progressively smaller until it is finally obliterated completely. In the vast majority of cases symptoms will cease after the first treatment, and if the patient is then discharged, a recurrence should be expected. Therefore, it is important to continue until the physician is satisfied that the hemorrhoidal mass has actually disappeared. A slough can easily be produced by injecting an excessive amount of the solution at one time or by placing the solution too close to the mucous surface; however, a skilled protologist will have little difficulty in preventing this undesired complication.

Procedure and Plan of Treatment

The injection of internal hemorrhoids is an ambulatory treatment and can be safely carried out in the doctor's office without anesthesia. No particular preparation of the patient is necessary, though the rectum should be emptied by normal bowel movement. Treatments are preferably given at intervals of one to two weeks; the average case requiring four to eight injections. The treatments are practically painless, though most patients experience an uncomfortable sensation in the ano-rectal area usually beginning after thirty minutes and lasting about an hour. The patient is advised to stay off of his feet during this period after which he may resume his normal activities except that defecation should be deferred for 12 to 24 hours. When internal hemorrhoids prolapse easily a "T-binder" is applied after the injection is made to support the hemorrhoids within the rectum and thus prevent the possibility of strangulation.

Selection of Cases

Most physicians today regard the injection treatment as useful to gain palliative and temporary relief, but consider surgery the only means of securing a lasting cure. It is our experience that the

injection treatment not only achieves symptomatic relief, but that its use in cases of uncomplicated internal hemorrhoids can be expected to effect a cure as complete and permanent as that obtained by surgery. It must be understood that all types of hemorrhoids are not suitable for the injection method, and an experienced proctologist can usually determine quite accurately by careful history and examination on the first visit what results may be expected from treatment. Surgery is generally indicated when internal hemorrhoids coexist with external hemorrhoids, fissure, fistula, or polypi, but the age and general condition of the patient also must be considered in selecting appropriate treatment. With senile patients or those having serious constitutional diseases palliative relief obtainable by injections may often be wiser than attempts at radical cure by surgery. Likewise, in those who have developed an anemia secondary to bleeding hemorrhoids, it is frequently advisable to arrest the blood loss by a few injection treatments, deferring surgery until the patient's blood count and general condition are satisfactory. Thus it is important that the proctologist be competent to administer the injection treatment, or else he must deny some of his patients the relief that can so easily be secured by a few injections.

We see a large number of patients for whom surgery is indicated, but for one reason or another wish it deferred. Sometimes this is advisable because of a temporary condition such as pregnancy or convalescence from surgery or other serious illness, and sometimes it may be justified by the patient's convenience, as in those whose work is seasonal or for whom a hospital bed cannot be found. Certainly these patients will be grateful for any relief obtained, and we are careful to explain to them that though great relief is to be expected, it will be neither complete nor permanent. We must admit that some of these patients are so pleased with the results obtained by a few treatments that they abandon for the present at least their plans for surgery.

Complications

Except for a very rare reaction due to quinine sensitivity we have observed no complications following the injection of internal hemorrhoids with "Quinuride". We attribute the complications of abscess, slough, fistula, hemorrhage, or stricture occasionally reported in the literature to errors of technique or faulty judgment in the selection of cases. Recurrence in properly selected cases is usually due to inadequate treatment.

Summary

(1) An attempt has been made to correct certain misconceptions concerning the mode and effectiveness of the injection treatment of internal hemorrhoids.

(2) The etiology and symptomatology have been discussed.

(3) The plan and procedure of the injection method have been discussed, including the choice of sclerosing agents.

(4) The criteria for the selection of cases have been outlined with the results to be expected following adequate injection therapy.

(5) Our experience leads us to conclude that quinine urea hydrochloride (Quinuride) is an effective and safe agent for use in the injection treatment of internal hemorrhoids.

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Discussion

DR. T. NEILL BARNETT, Richmond: Someone has defined a consultant as one who makes a rectal examination. This should be amended to apply to one who makes an intelligent and complete rectal examination, not just a digital examination.

The number of patients that consult the gastroenterologist and proctologist with comparatively minor findings, other than a moderate to severe secondary anemia, is significant. Many are treated *ad lib.* and *ad infinitum* with little or no lasting benefit.

To cite a case, a man whose work necessitated his being on his feet most of his working hours complained of profound weakness and fatigue. The various examinations revealed a severe secondary anemia. Sigmoidoscopic examination was negative. When the anoscope was inserted, however, numerous bleeding internal hemorrhoids were revealed. On repeated questioning no history of passing blood could be obtained until after the examination, when his attention was directed to observing his stool. He indicated that the bleeding resulted from the examination but finally admitted that he had always flushed the

toilet immediately, without observation. This is a practice common to many, and it denies the physician a most helpful observation. Injection of the hemorrhoids cured the anemia and the hemorrhoids.

Constipation is certainly not a primary etiological factor but is doubtless a contributory factor. Particularly is this true of the hard, dry fecal mass that is retained in the rectum for several days. On the other hand, many patients who are constipated are greatly relieved or cured of their constipation after adequate injection of a large, prolapsing hemorrhoid that obstructs the anal canal.

Another very disturbing condition that is frequently cured by injection of quinine urea is first-degree rectal prolapse. Systematic injections around the lumen into the submucosal tissue seals the mucous membrane to the rectal wall by means of the fibrosis resulting from the sclerosing agent. This method is most effectual in the adult and is especially indicated in infancy and childhood, since it is practically free of discomfort.

Every patient with rectal bleeding, even though hemorrhoids are apparently the sole source of the blood, should be sigmoidoscoped. All too frequently a bleeding or nonbleeding polyp or cancer may be found in the same individual. It should be remembered that the polyp or small adenoma of today may be and frequently is the cancer of tomorrow.

The problem of quinine sensitivity, although rare, can be most distressing and serious. I recall one patient in whom its occurrence was almost fatal. I have adopted the plan of obtaining from the patient a history of any possible quinine sensitivity before making an injection of quinine urea. If there is the slightest doubt, or if the patient cannot recall ever having taken quinine, I give him four three-grain capsules of quinine hydrochloride to take, one every four hours, with instructions to stop the drug if there is any indication of a skin rash or other reaction.

This able presentation is most instructive and timely. I do not know of any other procedure in medicine that is so simple, yet results in such radical cure.

Radioisotope Aids Brain Surgery.

Difficult surgery for brain tumors is being made easier by radioactive phosphorus produced in atomic energy laboratories.

Writing in the May 21st *Journal of the American Medical Association,* B. Selverstone, M.D., A. K. Solomon, M.D., and W. H. Sweet, M.D., Boston, say that in 14 cases they were able to locate brain tumors at the time of operation by use of the isotope.

When radioactive phosphorus was given to these patients in injections, it became concentrated in the brain tumors. The doctors were then able to locate the tumors by using as a probe a miniature model of the Geiger-Muller counter, an instrument that measures radioactivity. The precise location of the tumor was shown by an increase in the counting rate of the instrument.

Drugs for High Blood Pressure.

Clinical testing of two synthetic compounds, priscol and dihydroergocornine, for usefulness against high blood pressure is reported in the May 21st *Journal of the American Medical Association.*

The drugs counteract constriction of the blood vessels and other effects produced by the sympathetic nerves, which regulate the heart beat, blood flow, and many other body functions.

Use of priscol in two cases of high blood pressure is described by Max P. Rogers, M.D., of High Point, N. C. In both patients, one of whom had received priscol only two weeks, blood pressure was greatly lowered, Dr. Rogers says. Both patients tolerated the drug well.

Priscol shows promise of being useful in disorders in which the blood circulation to the legs is impaired, Dr. Rodgers' study shows. Three cases of such disorders associated with hardening of the arteries, three cases associated with diabetes, and two cases associated with thrombophlebitis (clots in the blood and inflammation of the veins) showed improvement after priscol therapy.

Patients with certain heart conditions may not be able to take the drug or may be able to take it only in small quantities, however, he indicates.

Tests of dihydroergocornine against high blood pressure are reported by Drs. Robert W. Wilkins, Edward D. Freis, and Joseph R. Stanton, from the Evans Memorial and Massachusetts Memorial Hospitals, and the Department of Medicine, Boston University School of Medicine, Boston, in another article in The Journal. The activity of dihydroergocornine in lowering blood pressure is unpredictable, being negligible in some patients and "profound" in others.

ACUTE THROMBOCYTOPENIC PURPURA FOLLOWING MASSIVE HORMONE THERAPY IN A PREGNANT DIABETIC*

DUVAHL B. RIDGWAY, M.D.,
Roanoke, Virginia.

This is a case report of a 20 year old pregnant white female with moderately severe diabetes. The diabetes was treated and controlled, and the patient was given stilbestrol and progesterone to try to prevent any accident during the pregnancy.

The patient was admitted to the hospital on July 23, 1947, for the control of her diabetes and at that time was approximately two months' pregnant. The diabetes was first discovered in March 1947 but had never been regulated. Her blood sugar was 238 mgm., and the urine contained 4+ sugar. She was placed on a 1650 calorie diet, C 200, P 100, F 50, 40 units of protamine zinc insulin before breakfast, and regular insulin according to test before each meal, which was approximately 20 units per day.

While the patient was in the hospital, she developed uterine cramps. She was started on 0.5 mgm. stilbestrol and 5 mgm. pranone daily, and this relieved her symptoms.

The pregnancy was uneventful until October 1947, at which time she began having severe uterine cramps. During the eighteenth week of the pregnancy, the stilbestrol was increased to 5 mgm. daily, and the dosage of pranone remained the same. The increase in the stilbestrol relieved the uterine cramps. The diet was increased during the twenty-second week to 1760 calories, and the protamine zinc insulin to 50 units before breakfast, the regular insulin remaining approximately the same.

During the thirty-second week the patient began to show signs of toxemia of pregnancy and an increase in the uterine contractions. She was treated for the toxemia of pregnancy, and the stilbestrol was increased to 15 mgm. a day. The insulin requirement remained the same.

The toxemia increased with continuous headaches and intermittent uterine cramps. The patient was admitted to the hospital the thirty-fifth week for the interruption of the pregnancy. At that time the fetal heart sound was in the left lower quadrant, 120 per minute, vertex presenting but not engaged, and the cervix was 1 cm. dilated.

*Read at the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1948.

The diabetes was regulated, and she was given vitamin K, 15 mgm. daily for two days before the Caesarean section. The blood count on February 2, 1948, was RBC 4,010,000, WBC 6,000, hemoglobin 13½ grams, 72% polys, 28% lymphs. The blood sugar estimation was 193 mgm. and the blood pressure was 160/100.

The Caesarean section was done under spinal anesthesia, and an apparently normal male infant weighing 8 lbs. 6 oz. was delivered. At the time of the operation, she lost approximately 100 cc. of blood. Her condition remained normal with slight uterine bleeding for the next hour and a half. Suddenly she began profuse uterine bleeding, hemorrhaging from the entire length of the abdominal incision, hemorrhaging from the gums, and cutaneous manifestations of purpura especially at the site of the infusion injection. The patient went into shock immediately. The blood pressure was 70/? She was given 1000 cc. of plasma and 500 cc. of blood immediately. The blood pressure rose at 130/70, and the bleeding checked slightly. She was given vitamin K, coagulin, koagmin, vitamin C, with rutin, and 1500 cc. of whole blood during the next five hours. At the end of six hours the bleeding had checked from the uterus, abdominal incision, and gums, and the blood pressure remained normal.

The platelet count at the time of the massive bleeding was 92,400 per cubic millimeter, and the hemoglobin was 9 grams. There was no coagulation for the prothrombin. Six hours later the prothrombin time was 17 seconds, or 40% of normal.

It was noted following this, upon questioning the patient, that she had developed rather marked bleeding of the gums prior to admission to the hospital (but this had not been reported to me). The bleeding from the gums subsided somewhat after she had been given vitamin K before the delivery.

After we were able to control the uterine and incisional bleeding, the patient's blood pressure remained normal, and her course was uneventful. She was given two transfusions following this, making a total of six transfusions. The incision

healed by primary union, and she was discharged on the ninth postoperative day. The platelet count was 160,000 per cubic millimeter, RBC 3,990,000, WBC 10,900, hemoglobin 13½ grams, and blood sugar 188 mgm. She was placed on a diet of 225 grams of carbohydrates, 90 grams of proteins, 75 grams of fats, 45 units of protamine zinc and 15 units of regular insulin before breakfast daily.

The hemorrhagic diathesis which appeared in acute and alarming form after her delivery was most likely, judging from her blood work, a secondary thrombocytopenia purpura from the prolonged use of estrogenic hormones (stilbestrol) during her pregnancy.

The underlying disturbance in clotting seems to be the lowered platelet count. The bleeding tendency cleared fairly promptly following the omission of the estrogens and the multiple transfusions. It is hard to say what part the vitamin K, coagulin, koagmin, and vitamin C with rutin played in the correction of the hemorrhagic diathesis except as supportive measures.

The literature indicates that the administration of estrogenic substances and particularly stilbestrol, while at times productive of nausea and vomiting, does not cause serious toxicity in human beings. Nevertheless, certain cases have been reported, which indicates that occasional individuals may exhibit an idiosyncrasy or sensitivity to stilbestrol or other estrogenic substances with resultant injury of the liver or bone marrow.[1] Loftes[2] reported the case of a 44 year old white woman who developed purpura on the legs and bleeding from the gums from weekly injectons of an estrogen.

Watson, Schultz, and Wikoff[1] reported five cases in which purpura was first noted after estrogen therapy. Thrombocytopenic purpura has been produced in dogs with large amounts of stilbestrol.[3,4]

Summary and Conclusions

1. Case report of a 20 year old pregnant white female with moderately severe diabetes. The patient was treated with stilbestrol and progesterone to try to prevent any accident of pregnancy.[5]

2. Following the interruption of the pregnancy at the thirty-fifth week, there was an acute hemorrhagic diathesis, which was relieved by multiple transfusions.

3. It is thought that the purpura in humans is the result of a sensitivity to the estrogenic drugs.

4. It seems worthwhile that any doctor who might be giving massive doses of stilbestrol to a pregnant diabetic should be on the watch for postpartum hemorrhage, as this is a very severe complication during any delivery, whether normal or by Caesarean section.

5. If at all possible, a blood gonadotropin determination should be done, as this is a guidance to the hormone imbalance. No facilities were available in this city at the time of this case for this determination.

NOTE: The diabetes was treated and controlled by Dr. Earle Glendy, Roanoke, Va.

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Discussion

DR. WILLIAM R. JORDAN, Richmond: This case of Dr. Ridgway's is certainly a very interesting one. I think it is well worth while reporting this or any others similar to it. Dr. Ridgway has discussed one of the preparations most widely used in the United States today. It is used in the menopause, in obstetrics, in bone pathology, and in the pregnant diabetic with toxemia.

You could tell from Dr. Ridgway's description that the case was well handled from every point of view, even after the trouble originated following delivery. I do not know just what else could have been done.

Stilbestrol, which is usually very mildly toxic or not toxic at all, occasionally in massive doses becomes really harmful. In the work on dogs it was shown that mild doses did not cause any damage at all, whereas massive repeated doses produced liver damage, with fatty necrosis. In humans it seems to me that it is only persons with an idiosyncrasy to the drug or who have no need for it who are harmed by it. I wrote Dr. White who is with Dr. Joslin, who has had more experience with its use in diabetics than perhaps any other person, and she said she had had no purpura at all. She did have one death.

For the past nine years we have been testing our pregnant diabetics for blood gonadotropin and, when we find it elevated, we use stilbestrol, up to 150 grams daily.

This always scares me, because it is so much more than used in any other type of case—at least in my experience. Yet we have had no trouble. The hemoglobin has not dropped in any case that I recall. It seems to be of some real use, particularly if we remember Dr. White's series, in decreasing the fetal mortality rate. In any such problem the danger of the treatment must always be weighed against the danger of the disease. With a fetal mortality rate of from forty to fifty per cent in diabetics you have a real saving of life if you can change that to ten or fifteen per cent, which Dr. White has finally done.

It seems to me this is sufficiently established to be worthy of further trial by other people. If the danger of death to the mother is not more than one in five hundred, which it seems to be, then I think it is worth trying, provided we pay attention to such reports as Dr. Ridgway's in picking up the early toxic signs and in treating the condition properly at the time.

The United States Civil Service Commission

Has announced a Medical Officer examination for filling rotating intern psychiatric resident, and surgical resident positions in St. Elizabeths Hospital, Washington, D. C. The salaries for rotating interns are $2,200 for the first year and $2,400 for the second year; the salaries for psychiatric resident range from $2,400 to $4,100 a year; and for surgical resident, from $3,400 to $4,150.

To qualify, applicants for the rotating intern positions must be third- or fourth-year students in an approved medical school. Applicants for psychiatric resident and surgical resident positions must be graduates of a medical school with the degree of doctor of medicine, and must have completed a full year in an approved rotating internship. In addition to the above requirements, applicants for appointment as surgical resident must have completed three full years as residents-in-training in surgery in an approved residency. No written test is required for this examination. The maximum age limit of 35 years is waived for persons entitled to veteran preference.

Further information and application forms may be obtained at most first- and second-class post offices, from civil service regional offices, or from the U. S. Civil Service Commission, Washington 25, D. C. Applications will be accepted by the Commission's Washington office until further notice.

Living Conditions and Rehabilitation

Living conditions in cities handicap patients recovering from serious illnesses, points out an editorial in the May 21st *Journal of the American Medical Association.*

Convalescents used to be stimulated by the daily needs of life on the farm and in the home, and their relationship with the doctor was sufficiently personal to help in the rehabilitation process, the editorial says.

Nowadays, however, and especially in cities, living conditions do not aid rehabilitation, and the doctor who has served the patient well during his recovery in the hospital can do little or nothing for him during the rehabilitative phase.

Many people live almost monastically in apartments like cubicles. From the hospital an inmate returns to his cubicle, where materials are delivered to the service door by the smoothly flowing "circulatory system" of the metropolis, and activities for recreation tend to be passive ones, such as listening to the radio, reading, and watching television, plays, or sports.

A prolonged convalescence imposes added strains upon a family living in cramped quarters. Modern living conditions in cities make special rehabilitation programs an important part of medical care, and emphasize the role of physical medicine and occupational therapy in the rehabilitation of patients.

INFLUENCE OF STILBAMIDINE IN MULTIPLE MYELOMA WITH PRE-EXISTING RENAL INVOLVEMENT—CASE REPORTS*

J. DAVID MARKHAM, M.D.,
JOSEPH R. KRIZ, M.D.,
and
JOHN P. WILLIAMS, M.D.,
Richmond, Virginia.

INTRODUCTION

In 1946 Snapper[1] first presented a series of cases of multiple myeloma in which he had tried two drugs of the di-amidino-stilbene group, stilbamidine and pentamidine. These drugs, particularly stilbamidine, had been used with complete success in the treatment of kala-azar, and the occurrence of hyperglobulinemia in this disease and in multiple myeloma led to their clinical trial in the latter. Results so far have indicated that these agents are useful in relieving the severe pain of multiple myeloma, and in some cases have markedly reduced the invalidism.

Arai and Snapper[2] reported fourteen cases in which particular attention was paid to the influence of stilbamidine on the renal, hepatic, and hematopoietic systems. Of these, three cases showed an increase in the blood non-protein-nitrogen or blood creatinine, with no demonstrable specific lesions at autopsy which might be attributed to the stilbamidine. Two other cases with pre-existing renal involvement revealed only the typical changes of multiple myeloma at autopsy, although the course of their renal disease appeared to have been aggravated by the therapy. In none of the five cases autopsied were hepatic lesions found.

The use of the di-amidino-stilbenes, particularly 4:4′ diamidino-stilbene or stilbamidine, in the therapy of kala-azar has been known since 1939.[1] Most of the experience with this drug was confined to the Middle East and India. Oastler and Fidler[3] reported toxic effects in animals, with widespread damage to liver, kidneys, brain and other internal organs. Sen Gupta[4] criticized this work, asserting that the changes recorded were the result of the use of autoclaved solutions of stilbamidine, with chemical changes causing the toxicity. However, experience with humans indicates that certain toxic effects may be expected. Some of these appear immediately upon injection, such as numbness and tingling of the extremities, or a feeling of formication, and occasionally there is a drop in blood pressure which is transitory and not of great significance. A delayed effect has been noted by most workers two to five months after completion of treatment, consisting of a trigeminal neuropathy with numbness, formication, heaviness and itching.[2] There is dissociated anesthesia, with loss of the sensation of light touch but not of pain, pressure or temperature. There is slow recovery from all these effects except the dissociated anesthesia, which may be permanent.

Seager and Castelnuovo[5] found that the maximum dose of stilbamidine tolerated by mice was 50 milligrams per kilo intraperitoneally, and by rabbits was 20 milligrams per kilo intravenously. The chief toxic effects they observed were in the liver and kidneys. In the liver the changes resembled the precirrhotic changes seen in various kinds of poisonings. Most of the damage was in the periphery of the lobules, with the amount of fibrosis apparently proportional to the survival time of the animal. In the kidney cloudy swelling was seen in the tubules, sometimes with involvement of the glomeruli. Congestion and enlargement of intertubular vessels were observed, while hyaline and granular casts have been found, especially in the lower part of the medulla. Nevertheless, there were distinct species differences, with the mice more resistant to liver damage and the rabbits to kidney damage. It is not clear whether the solutions of stilbamidine used were fresh.

The effect of stilbamidine in human beings has not been completely studied. In this country Snapper and associates,[6,7,1] in using the drug for the treatment of multiple myeloma, have made intensive studies of the deposition of stilbamidine in the myeloma cells of the bone marrow and in myelomatous tissue. They found basophilic inclusion

*From the Medical Service, McGuire Veterans Administration Hospital, Richmond, Virginia. Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the authors.

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bodies in the cytoplasm of myeloma cells in patients treated with stilbamidine, and an appreciable concentration of stilbamidine in myelomatous tissue. The inclusion bodies were demonstrated to contain ribose nucleic acid, and on the basis of their work they advanced an hypothesis for the action of stilbamidine in multiple myeloma. They proposed that the stilbamidine combines with the ribose nucleic acid of the myeloma cell to render it inert, and thus prevent the formation of the abnormal proteins found in multiple myeloma. They suggested that the myeloma cell itself is the principal source of the abnormal globulins, such as Bence-Jones protein, and that stilbamidine has an affinity for the abnormal nucleoproteins involved in their synthesis, but not for the nucleoproteins of normal cells. This is of particular interest, since it is known that actively regenerating cells, such as are found in cancer tissue undergoing active protein synthesis, contain large amounts of basophilic nucleoproteins. This is true of the myeloma cell, but the particular aberration producing the Bence-Jones protein may require a specific nucleoprotein which is chemically susceptible to inactivation by stilbamidine.

While the subject of multiple myeloma has been extensively studied, reviews of the literature from time to time indicate that there are still some controversial areas. Excellent reviews of the subject are available, and it is not our purpose to duplicate them here.[8,9,10,11] Of particular interest are the variations reported in blood calcium and phosphorus levels and their relation to function of the parathyroids. Barr and Bulger[12] reported a case with hypercalcemia, normal blood phosphorus, and hyperfunction of the parathyroid glands. Snapper[9] states that this is rare, with normal parathyroids the rule even with hypercalcemia, while hypercalcemia itself is unusual. The nature of the abnormal proteins found in the blood has not been definitely elaborated, probably because of the wide fluctuations in quantitative determinations of the globulin fractions in different cases of multiple myeloma. The chemical nature of Bence-Jones protein has not been elucidated, although two observers independently have found Bence-Jones protein in the bone marrow[13,14] and there is little question as to its endogenous origin.

Since the number of reported cases of multiple myeloma with pre-existing renal involvement treated with stilbamidine is very small, we are presenting two cases treated at the McGuire Veterans Administration Hospital in the terminal stages of the disease, with autopsy findings, in order to add to the material available for future final evaluation of stilbamidine therapy in multiple myeloma.

Case 1. (H. D., Register No. 8069): The patient was a 59-year old white male whose symptoms began in September, 1946, with soreness of the left shoulder made worse by motion. This was soon followed by pain in the chest made worse by coughing. Treatment for pleurisy did not relieve the pain. It became worse in the thoracic spine and the lower ribs, with right hip pain appearing by the end of May, 1947. There had been no weight loss or other systemic complaints. The patient continued to work until April, 1947. During the Spring of 1947 his doctor noted proteinuria. Urography revealed bony abnormality which was interpreted as possible hyperparathyroidism. Further workup showed a high blood protein with hyperglobulinemia, Bence-Jones proteinuria, and skull X-ray findings consistent with multiple myeloma. Slight shortening of stature was noted. He was admitted to the Veterans Administration Hospital in Huntington, West Virginia, on June 3, 1947, and transferred to McGuire Veterans Administration Hospital, Richmond, Virginia, on July 2, 1947.

At Huntington physical examination revealed a well-developed, well-nourished elderly white male lying quietly in bed, but experiencing a good deal of pain in the lower thoracic spine on movement. Pressure over the lower ribs bilaterally caused pain radiating around to the back. BP was 118/80. The liver was palpable two finger-breadths below the right costal margin on deep inspiration. There was slight bilateral costo-vertebral angle tenderness, with tenderness on percussion of the vertebrae from D-9 down to L-1. There was also tenderness over the sternum. X-rays showed sharply-demarcated, punched-out areas varying from three to twelve millimeters in the skull, ribs, lumbar vertebrae, pelvis and femurs. Pathological fractures of the left and right third ribs and left fifth rib were noted, with collapse of vertebrae D-7 and D-8 and cortical thinning of D-9 and D-10. Beginning collapse of L-1 and L-5 was seen. Chest X-ray showed increased broncho-vascular markings with fibrosis and circumscribed areas of parenchymal infiltrations. The peripheral blood showed a slight leucocytosis. Blood calcium was 15.4 mgm. per cent,

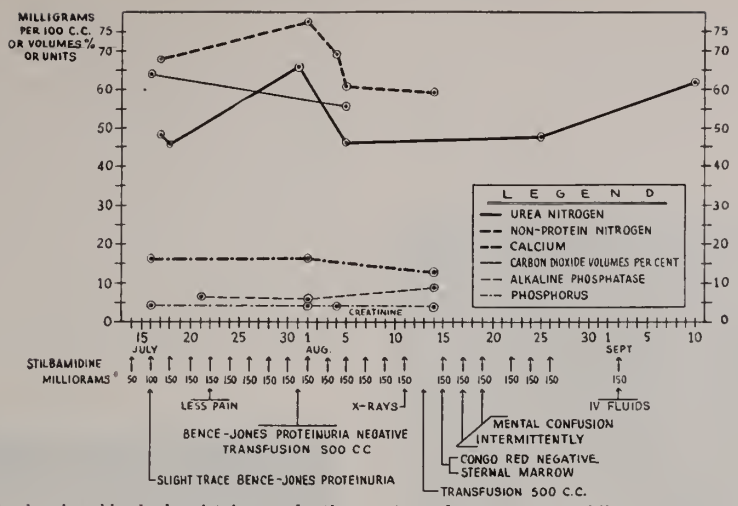

Fig. 1.—Graph showing blood chemistries, and other tests and treatments while under stilbamidine therapy.

inorganic phosphorus 6.1, non-protein nitrogen 38.7, creatinine 1.0. The total blood protein was elevated to 9.25 grams per cent, with albumin of 2.67 grams and globulin of 6.58 grams. Urine was negative for Bence-Jones protein, although repeated urinalyses showed constant 4 plus albuminuria with many hyaline and finely granular casts and maximum concentration to specific gravity of 1.017. Sternal marrow examination was pathognomonic for multiple myeloma, plasma cell type. The patient was completely bedridden because of pain in his chest and back. He developed anorexia and constipation, with progressive weight loss.

When the patient arrived at McGuire V. A. Hospital he was poorly nourished and showed evidence of chronic weight loss. There was general pallor of the mucous membranes. The chest was emphysematous in type, with a few fine rales at the lung bases. The tendon reflexes of the upper extremities were hyperactive and there was a coarse fascicular twitching in the arms and hands.

The laboratory findings are summarized graphically, together with pertinent clinical events which may have influenced them. Figure 1 is a presentation of the blood chemistry findings, while Figure 2 presents the peripheral blood picture. The urinary findings showed little change, with persistent 4 plus albuminuria and gradual lowering of the specific gravity. PSP dye excretion was markedly diminished, totaling less than 15% in two hours on July 15, 1947. On August 21 quantitative urine albumin determination showed 2.5 grams per liter per 24 hours, with 3.2 grams per liter on September 12.

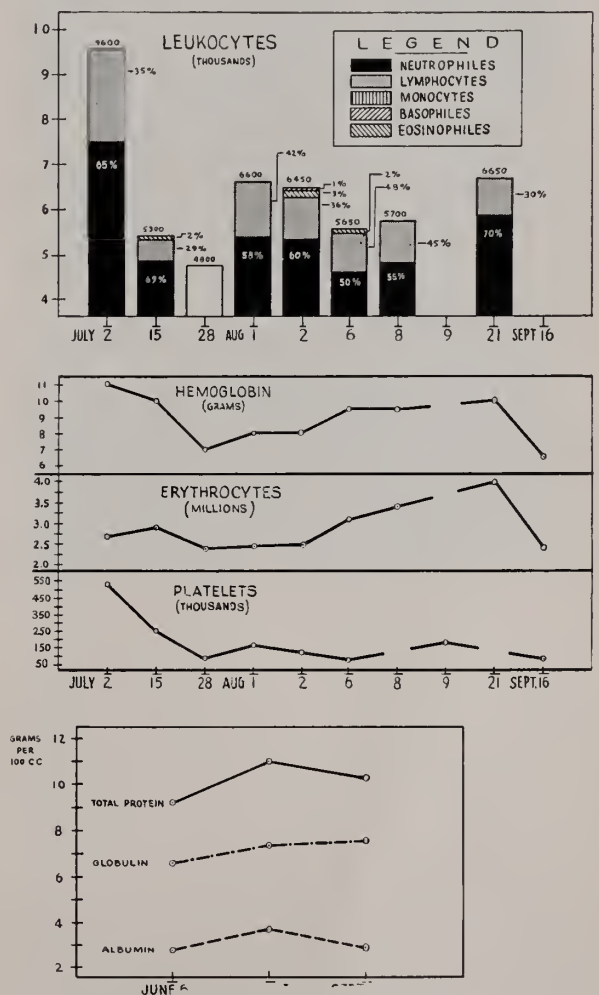

Fig. 2.—*Upper:* The white count remained relatively unaffected during the course of treatment.
Middle: Progressive myelophthisis affecting the erythropoietic and platelet elements occurring despite transfusions and stilbamidine therapy. The platelet count at times fell below the critical level.
Lower: Hyperglobulinemia with elevated total protein and reversal of the A-G ratio is demonstrated.

Bence-Jones proteinuria was found on only one occasion, despite numerous analyses by special technique. Sternal marrow examination on July 2 revealed 80% of the myeloid cells to be of the plasma cell type (Plate I). A second sternal marrow ex-

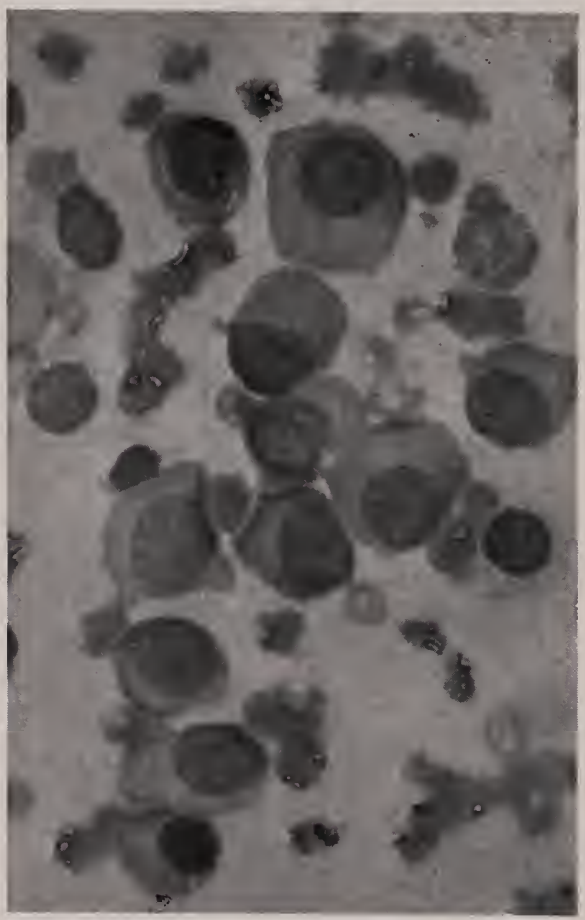

Plate I.—Photomicrograph of sternal marrow in first case. Typical myeloma cells of plasma cell type are seen. Wright's stain.

amination on August 15, after the patient had received fifteen injections of stilbamidine, totaling 2,100 mgm., revealed no essential change. Repeated studies of the peripheral blood revealed an occasional plasma cell. Basophilic inclusion bodies, as described by Snapper, were not seen in the sternal marrow examination of August 15.

X-rays taken July 8 showed some progression of the bony lesions in the one month interval since the last series. The right eighth rib had a pathological fracture. Areas of decreased density were noted in the scapulae and clavicles. The spine likewise showed numerous rounded punched-out areas of decreased density in most of the vertebrae, with flattening and anterior wedging in D-4 and D-5, D-8 and D-9, D-12 and L-1. Osteoporosis was present in all bones examined. The renal shadows appeared normal. The lungs appeared normal. Re-examination of the skull, ribs, spine and pelvis including upper one-third of the femurs on August 12 showed evidence of definite increase in size and number of the osteolytic defects (Plate II). The patient had completed his first course of stilbamidine at the time of the repeat X-rays, and had received fifteen injections totaling 2,100 mgm.

During therapy, the clinical course was at first

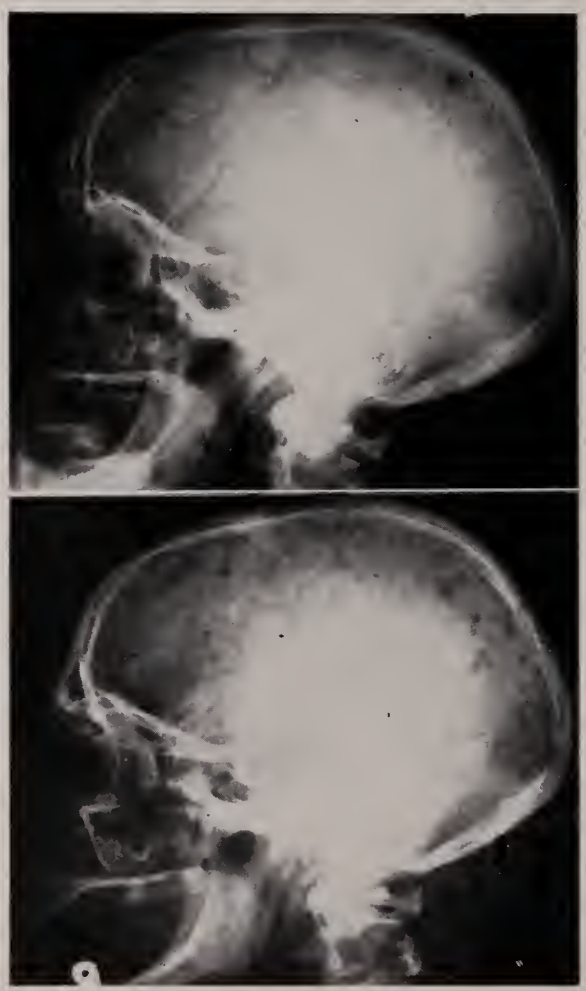

Plate II.—*Upper X-Ray:* Before treatment. *Lower X-Ray:* After treatment. Note the increase in size and number of osteolytic defects.

encouraging. After four injections he noted a definite lessening of the pain in his back. He continued to show symptomatic improvement with lessening of pain everywhere but in the sternum. He was able to move about in bed, and on several occasions sat

up or kneeled spontaneously. His general condition, however, showed steady deterioration. Anemia and azotemia became more marked, responding at first to supportive measures, but with less response progressively. Stilbamidine therapy was continued until the patient had received a total of twenty-two injections, or 3,150 mgm., by September 2. He had become increasingly drowsy and lethargic during the last two weeks of treatment, and at times appeared confused mentally. His nutritional intake became very inadequate, and attempts to render further supportive treatment intravenously were unsuccessful because of venous thrombosis subsequent to the stilbamidine therapy. On September 16 he had a rectal hemorrhage of about 200 cc. of bright red blood. Rectal examination disclosed a fecal impaction with tarry stool and tarry liquid feces behind the impaction. Platelet count at that time was 80,000. Drowsiness progressed to stupor, cachexia was marked, and the patient died in respiratory collapse on September 19, 1947.

Autopsy Findings: A complete post-mortem examination was performed 15½ hours after death. The body showed marked emaciation and cachexia. The significant gross and microscopic findings were: Heart—weight 250 grams. The myocardium was reddish-brown and firm. The coronary arteries were patent. Microscopically, no remarkable changes were noted.

Lungs—The right weighed 475 grams; the left 550 grams. Focal areas of consolidation were noted in both lungs. Microscopically the lungs showed broncho-pneumonia.

Liver—weight 1150 grams. The capsule was smooth. Microscopically fatty metamorphosis of the liver cords and a few areas of lymphocytic infiltration in the interlobular connective tissue were present.

Spleen—weight 50 grams. The capsule was smooth. The cut surface was purplish-red, and the pulp sank below the level of the capsule. The Malpighian corpuscles were indistinct. The most striking change microscopically was the marked deposition of hemosiderin found both intra and extracellularly.

Kidneys—The right weighed 100 grams; the left 150 grams. The capsules stripped with ease revealing finely granular surfaces. Microscopically many of the glomerular tufts showed hyalinization of the capillaries. Many convoluted and collecting tubules were occluded with homogeneous hyaline-appearing casts that showed numerous linear cracks. In the neighborhood of these protein casts were giant cells of the foreign body type. There was round cell infiltration of the interstitial tissue. A few calcific deposits were seen in the medulla.

Skeletal System—pathologic fractures of the 2nd and 7th ribs on both sides were noted. On the pleural surfaces of the right 3rd and 4th ribs just lateral to the costovertebral junction a bulging soft, fluctuant tumor mass was seen. This tumor mass was directly connected with the bone. Over the manubrium sterni there was another area where the bone was replaced by soft, necrotic-appearing tumor tissue. Microscopically the bone sections showed the characteristic findings of multiple myeloma.

Skull—no fractures were found. However, numerous small circumscribed areas, the largest measuring 1 cm. in diameter, were seen. These were depressed below the bone surface, soft and hemorrhagic. Microscopically these showed typical multiple myeloma.

The adrenals, prostate, brain, pituitary, thyroid, parathyroids, and pancreas did not reveal significant changes.

Case 2. (M. R., Register No. 7728): The patient was a 57-year old Negro male admitted to the hospital originally on June 16, 1947, for treatment for pulmonary tuberculosis. He gave a history of pain in his chest and cough productive of bloody sputum for two months prior to admission. The week before admission he had been treated with streptomycin by his local physician. A chest X-ray revealed tuberculosis, and the patient was hospitalized. The only other symptoms of note were pain in the left hip on motion of that joint since March, 1947; transient pain in both upper abdominal quadrants for two weeks; nocturia five to six times, with daytime frequency; and "chest trouble" since serving in France in World War I.

Physical examination revealed a well-developed, fairly well-nourished, middle-aged Negro male, who was slow in his responses and appeared to be below normal in intelligence. The history was elicited with great difficulty. Medium moist rales were scattered throughout the right upper lung field. There was some tenderness on pressure in both upper quadrants. Pain was elicited on motion of the

left hip in abduction and flexion. There was no local swelling or increased heat.

On the day of admission to the hospital postero-anterior and apical views of the chest by roentgenogram showed a fibrotic infiltration in the upper half of the left lung field with considerable diminution in size of the left hemithorax. A few nodules were seen in this area. On the right there was a fibrotic infiltration overlying the second rib, with mild fibrosis and emphysema in the remaining lung fields. Several old healed fractured ribs were seen. The roentgen appearance was consistent with tuberculosis of neoplasm. The patient's serum was found to be anticomplementary because of hyperglobulinemia. X-rays were then taken on June 23 of the bony pelvis, spine, skull, long bones, ribs and both hands. These revealed widespread oval and punched-out areas of decreased density in all bones examined except the spine and hands, where arthritic changes of the hypertrophic type were evident. Sternal marrow puncture was then performed, and the diagnosis of multiple myeloma was established on June 26 with the finding of 40% myeloma cells of the plasma cell type in the bone marrow smear. Peripheral blood smears on June 27 showed 3% plasma cells, but numerous subsequent studies were negative except for a rare plasma cell seen on August 14. The disease in this patient remained confined to the bone marrow.

TABLE I

Date	*Hgb.* (gms.)	*Rbc.* (millions)	*Wbc.*	*Sed. Rate*	*Hematocrit*	*Platelets*
6/16	10.5	2.95	6950	mm/hr.		
6/21	10.0	3.65	6000			
6/22	10.5	3.31	5300			
6/24	8.0	2.80	7350	26	29	
6/27	11.0	3.49				
6/28	11.5	4.38				
7/1	14.5	4.63	Transfusions			
7/2	11.5	3.98				
7/3	11.0	4.20				
7/7						590,000
7/9	10.5	3.65				
7/10	9.5	3.28				
7/23	9.0	3.35				
8/1	9.0	2.95				
8/2		3.84	15,800			200,000
8/7	8.0	3.00	11,050	5		240,000
8/9	10.0	4.08	7,100			110,000
8/12	10.5	3.60	9,200			130,000
8/14	11.0	3.48	8,300			120,000
8/16	8.5	2.91	8,700			
8/19	10.5	3.60	6,900			110,000
8/21	9.0	3.07	8,500			150,000
8/23	9.5	3.00	7,550			150,000
8/26	8.5	2.75	9,850			150,000
9/1	9.5	3.20	9,100			170,000
9/13			7,700			

Case 2. Progressive anemia developed without demonstrable influence on the platelet or white blood cell count.

Laboratory studies are presented in tabular form where possible. Table I lists the blood counts, and reveals a continuous progressive anemia which showed only temporary response to transfusions. The white cell count and platelet count did not show any abnormality throughout the patient's illness. The blood chemistries are presented in Table II.

TABLE IIA

Date	*Formol gel*	*T.P.*	*Alb.*	*Glob.*	*Chlor.*	*BSP*	*Ict. Ind.*	*Acid Phos.*	*Vd B.*
6/17		9	3.7	5.3					
6/18							6		neg.
6/19						4% retention			
6/24	positive	8.7	3.9	4.6	462				
6/28								neg	

TABLE IIB

Date	*Cal.*	*Phos.*	*Alk. phos.*	*BUN*	*NPN*	*Creat.*
8/7	16.7	3.9	11		65	
8/12					67	
8/15					76	
8/19					85	
8/22				40	56	
8/26				62		
9/13				37		2.5

Tables IIA and IIB. Blood chemistry tests performed in *Case 2.* Note that the degree of azotemia had wide fluctuations, apparently unrelated to stilbamidine therapy.

More determinations were not done because of the technical difficulty in obtaining blood in sufficient quantities as a sequel to the venous thrombosis which occurred locally following the injection of stilbamidine. It is interesting to note that on two out of three occasions the sedimentation rate was normal despite the high globulin content of the serum and the presence of active tuberculosis.

Bacteriological studies of sputa and gastric washings were negative for acid-fast bacilli, although a bedside chest film on September 12 suggested extension of the changes in the right upper lobe. The urine showed a persistent trace of albumin with a low fixed specific gravity which reached a maximum of 1.007 during a concentration test on August 8,

pyuria ranging from four to thirty cells per high power field, intermittent hyaline casts, and varying amounts of renal epithelial cells. No Bence-Jones protein could be discovered, however. Quantitative measurement of the urine albumin excretion in 24 hours was 0.92 grams on August 13, at a time when the azotemia was increasing. Further X-ray studies were performed. A bedside chest film on September 12 revealed marked collapse of the bodies of the third, ninth and eleventh thoracic and first lumbar vertebrae. Other bony changes were probably more marked than on previous examination. X-ray of the cervical spine on August 25 showed no evidence of pathological fracture.

Incidental laboratory studies showed a negative Wassermann, negative Frei test, and cerebrospinal fluid total protein of 59 mgm. per cent with all other spinal fluid findings normal. Biopsy of rectal mucosa after an episode of rectal bleeding was negative, while biopsy of a mass excised from the left prepatellar region revealed a fibroma. Barium enema following transient severe abdominal pain was negative.

The patient's course in the hospital was stormy. He had transfusion reactions of a febrile nature, and thereafter had febrile episodes intermittently. He went progressively downhill, and became increasingly more lethargic. His pain increased, so that he was completely immobile in bed and could be turned only with great difficulty. Most of the pain appeared to be in the left hip and pelvis. Stilbamidine therapy was begun on August 7 and given every other day intravenously until a total of 1.2 grams in nine injections had been given. Toward the end of the treatment period there was a sharp rise in the blood non-protein-nitrogen. The patient was drowsy, but on persistent questioning stated that there had been no change in the pain. At the same time, administration of the drug had become very difficult because of local venous thromboses. For these reasons, and because the patient's condition made further evaluation of the drug doubtful in this case, the therapy was discontinued. At the end of August the patient developed a transitory myositis on the left side of his neck. Emaciation had become marked with a decubitus ulcer over the left gluteal region. The patient became semicomatose with gradual deterioration until death on September 24, 1947.

Autopsy Findings: A complete post-mortem examination was performed 21 hours after death. The body showed marked emaciation. The significant gross and microscopic findings were: Heart—weight 260 grams. Myocardium reddish-brown and flabby. Coronary arteries tortuous but patent. Microscopically no significant changes were seen.

Lungs—the right weighed 780 grams, the left 650 grams. Both lungs showed evidence of extensive tuberculosis with cavitation. Microscopically the lungs, parietal pleura and peribronchial lymph nodes were tuberculous.

Liver—weight 1330 grams. The capsule was smooth. The left lobe was narrow and elongated. A thick band of fibrous tissue separated the tip from the body of the left lobe. Microscopically sections from the right lobe showed round cell infiltration in the interlobular connective tissue. Focal areas of necrosis were seen surrounded by leukocytes. The liver cords showed marked bile pigment in the cytoplasm. Sections from the tip of the left lobe showed complete destruction of the lobular structures. The liver cells were necrotic and only a fine reticulum was seen in which could be seen pigment-laden macrophages, lymphocytes and degenerated liver cells. Groups of biliary ducts were identified with considerable round cell infiltration around them. Numerous bands of scar tissue and thick-walled blood vessels were seen.

Spleen—weight 100 grams. The capsule was wrinkled. The cut surface was dark red and sank below the level of the capsule. The Malpighian corpuscles were indistinct. Microscopically, there was a heavy deposition of hemosiderin both intra and extracellularly.

Kidneys—the right weighed 120 grams, the left 140 grams. The capsules stripped with slight difficulty, revealing finely granular surfaces. Microscopically, a few of the glomeruli showed fibrosis. Focal areas of lymphocytic infiltration were seen. Many of the collecting tubules were filled with hyaline-appearing casts that showed linear cracks. Mild sclerosis of the blood vessels with hyalinization of the walls was seen.

Skeletal System—pathologic fractures of 3rd to 6th ribs right, and 3rd to 5th ribs left were noted. Microscopically, the sections showed the typical findings of multiple myeloma.

Skull—many discrete, soft hemorrhagic areas

were noted in the calvarium and at the base of the skull, particularly about the posterior and anterior clinoid processes. Microscopically, the sections disclosed typical multiple myeloma.

The remaining organs were essentially normal.

COMMENT

Both of these cases presented the typical picture of advanced multiple myeloma. Neither case showed evidence of amyloidosis despite the extensiveness of the disease and, in the second case, its association with tuberculosis. Hypercalcemia was present in both, with calcific deposits microscopically in the kidneys in one. The parathyroids were apparently normal. Hyperglobulinemia was present in both, although Bence-Jones protein was found in only one. Typical bone lesions were present with marked invalidism, and the bone marrow smears were pathognomonic.

Because of the advanced stage of the disease, and the marked renal involvement in both cases, therapy with stilbamidine was begun cautiously with administration of the drug every other day intravenously. Marked symptomatic response was observed in our first case after the fourth injection, although all X-ray and laboratory studies showed a continuous progression of the disease. Pain was materially reduced, and movement in bed became possible. The effect on the kidneys was not sufficiently marked to attribute any of it to the stilbamidine. At first there seemed to be an increase in the uremia, but transfusions and intravenous fluids reversed this tendency, and there was no further significant rise despite the continuance of treatment until a total of 3150 milligrams had been given. Although there was a progressive downhill course with lethargy and drowsiness, death actually came because of bone marrow phthisis and intractable progressive anemia, due to widespread replacement of the normal marrow with myeloma tissue, and terminal thrombocytopenia.

In our second case treatment was discontinued after nine injections, or after a total of 1200 milligrams of stilbamidine had been given. The patient clinically was semi-stuporous part of the time, and showed no apparent clinical or symptomatic benefit from the drug. He remained motionless in bed because of pain, and showed no evidence of palliation. There was a steady increase in the extent of his uremia with an uremic death, associated with progression of the pulmonary tuberculosis.

In both cases transitory paresthesias were noted during administration of the drug, but no other ill-effect. A clinically important tendency of the drug to produce venous thrombosis locally at the site of injection was noted, the thrombosis usually requiring one to two days to develop. This interfered with the supportive treatment of the patient, and it is recommended that in further cases the drug be used in greater dilution in normal saline. Freshly prepared non-autoclaved solutions of stilbamidine were used in both cases for each injection.

At autopsy the gross findings were essentially those to be expected. The microscopic findings differed somewhat from the gross, particularly with reference to changes observed in the liver. In the first case, a chronic inflammatory reaction of the interlobular connective tissue, with fatty changes in the liver cord cells, was observed. These changes were non-specific, and could have been due to the marked cachexia, rather than to the stilbamidine. In the second case a varied picture was seen in the liver, ranging from focal areas of mild inflammation and discrete necrosis to complete dissolution and destruction of liver tissue. Here again interpretation is difficult. The inflammatory reaction might have been due to cachexia or the stilbamidine. The area of greatest destruction was found distal to the congenital band or post-traumatic scar. The patient was not alert enough on arrival in the hospital to give an adequate past history. Only further experience with stilbamidine will determine whether the lesions in the left lobe were due to the drug. No jaundice was ever observed clinically in our patients, and the microscopic lesions were not considered to be of fatal extent.

A significant finding was the lack of any lesion in the kidneys attributable to stilbamidine. The findings of advanced "myeloma kidneys" were present.

In our sternal bone marrow studies we were unable to demonstrate the inclusion bodies described by Snapper, although clinically satisfactory palliation was achieved in one case.

Neither of our patients lived long enough after treatment to develop trigeminal neuropathy.

There were no extra-medullary metastases in either case.

SUMMARY

1. Two cases of multiple myeloma with marked renal involvement, treated with stilbamidine, are presented.

2. No lesions were found in the kidneys attributable to the drug. Non-specific lesions were present in the liver. Further experience with stilbamidine is necessary to evaluate these properly.

3. Local venous thrombosis at site of injection was encountered frequently. Much greater dilution of the drug at time of injection is indicated.

4. Palliation of pain was achieved in one case. There was no apparent effect on the course of the disease in either case.

We wish to express our appreciation to Merck & Company, Inc., who supplied the stilbamidine used in this study.

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Persons With High Blood Pressure Lack Self-Assertion.

A significant association between high blood pressure and lack of assertiveness is pointed out by five St. Louis doctors.

The doctors—Gregory C. Gressel, M.D., Frank O. Shobe, M.D., George Saslow, M.D., Henry A. Schroeder, M.D., and Philip H. DuBois, Ph.D., of the Departments of Neuropsychiatry, Psychology, and Internal Medicine of Washington University—made a study of personality patterns in 50 patients with high blood pressure as part of a comprehensive investigation of the disease.

Reporting in the *Journal of the American Medical Association,* the doctors say that a comparison of personality patterns of these patients and of those of 49 patients with personality disorders and 44 patients with chronic illness of physical origin shows statistically significant degrees of association between high blood pressure and "subnormal assertiveness" and "obsessive-compulsive behavior."

Traits of being excessively submissive, ingratiating, and apologetic, and of greatly repressed feelings of hostility were found in 34 of these patients with high blood pressure, in 20 of the patients with personality disorders, and in only six of the patients with chronic illness of physical origin. Handicapping traits of meticulousness and repetition of actions were found in 37 patients in the first group, 14 in the second group, and six in the third group.

THE ROLE OF THE LIVER IN BLOOD COAGULATION*

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The clotting process is, as Tocantins has pointed out again in a recent article, only one of several factors that produce hemostasis. Other factors to be considered are the location of the vessel, the tension of the surrounding tissue and the size and anatomical structure of the vessel. The condition of the vascular lining and the rate of blood flow also are of the greatest importance. Nevertheless, the clotting mechanism proper and the agents involved in it have always attracted special interest and still do, as the six hundred odd articles indicate that are listed on this subject matter in the *Annual Reviews of Physiology* of 1946 and 1948.

The purpose of this presentation is to review briefly the role of the liver in blood coagulation. Limitation of time makes it necessary to confine these remarks to facts that seem well established, omitting many interesting but controversial aspects of the matter. I shall take up one after another the various substances involved in the clotting process as they are related to the liver, discuss briefly their nature, function and significance, and thus highlight the central many-sided and indispensable role which the liver occupies in blood coagulation.

The present prevalent concept of clotting divides this process in four consecutive phases: the first step is preliminary and represents what can be called the trigger mechanism. It consists in massing and clumping of platelets, resulting in their disintegration and the release of thromboplastic substances. At the same time, a reduction of antithromboplastin, normally present in the plasma, occurs. Under physiological conditions, only minimal amounts of thromboplastic substances are liberated from platelets and are immediately inactivated by antithromboplastin, also called anticephalin. It is chiefly this absence of free thromboplastin which maintains the blood fluid in our vessels. During the second phase of clotting—the conversion phase—prothrombin, by the action of thromboplastin, is transformed into thrombin. The amount of thrombin formed is proportional to the amount of prothrombin available.

Prothrombin is formed in the liver and will be discussed in greater detail. The presence of ionized calcium is necessary in this step but the mechanism of its action is still unsettled. In the third phase, thrombin acts on the sol fibrinogen to form the gel fibrin. Fibrinogen is another substance formed in the liver and we shall come back to it. Finally, in the fourth phase, the formed clot is eventually dissolved by a normally present substance, fibrinolysin.

Prothrombin is an euglobulin containing about 4.3 per cent carbohydrate and an active alpha amino group. It appears fairly well established that there are two variations of prothrombin: a labile type, prothrombin A, which disappears from stored blood; and a prothrombin B which disappears following administration of dicoumarol. The practical application of this is that banked blood is perfectly acceptable for the treatment of dicoumarol over-dosage. As already said, prothrombin is formed in the liver. Adequate supply of vitamin K and good hepatic function are prerequisites for its production. Prothrombin is not measured quantitatively in the blood but by its activity, usually by the one stage method of Quick. Its principle consists in determining the clotting time of plasma with thromboplastin and calcium ions present in fixed and optimal amounts. There exists considerable disagreement on whether the clotting time under such conditions is actually and exclusively dependent on the concentration of prothrombin but the test meets all practical requirements. It must be kept in mind that the relation between plasma clotting time and prothrombin concentration is not expressed by a straight line but by a hyperbolic curve. Thus, if we call a clotting time of 12 seconds normal and 100 per cent, a clotting time of 15 seconds would mean a reduction of prothrombin to 50 per cent. A clotting time of 25 seconds would represent a prothrombin level of 20 per cent of normal, one of 38 seconds, 10 per cent of normal. Increased prothrombin activity, or, in other words, a shortened clotting time, may be found in late pregnancy and following the administration of digitalis, methylxanthines and adrenalin. Since digitalis also seems to release thromboplastin from the platelets, its

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use in cardiac failure complicating coronary thrombosis involves definite hazards. Clinically more important, however, is reduction of prothrombin activity, as expressed by prolonged plasma clot-long time. Such reduction takes place due to increased utilization of prothrombin as in trauma and chronic illness. It is present in idiopathic hypoprothrombinemia and is brought on by a number of drugs as dicoumarol, salicylates, barbiturates and various hepatotoxic agents like chloroform and carbon tetrachloride. It follows lack of vitamin K and is found in liver insufficiency. Vitamin K is essential for the production of prothrombin. It is not a clotting factor itself but an indispensable link in liver metabolism which leads to prothrombin formation. How it acts in this respect is unknown. Radioactive vitamin K has been seen to diffuse rapidly without being retained in the liver. The various forms of vitamin K all contain an active naphthoquinone ring. It is interesting to note that the much more effective synthetic compounds are chemically much simpler substances than the natural vitamins. Vitamin K deficiency due to inadequate intake is practically non-existant since supply is abundant and synthesis by the intestinal flora continuous. It might be mentioned in this connection that sulfa drugs do not interfere with this synthesis. An exception is the biological deficit in the new born due to the absence of intestinal bacteria, and the inability of the infant to store the vitamin. The advantage of providing an extra supply to the infant by vitamin K administration to the pregnant mother is recognized despite certain statistical evidence that intracranial and retinal hemorrhage in the newborn is not significantly reduced as compared with untreated controls. Failure of absorption is seen in bile duct obstruction uncomplicated by hepatic damage. It is due to the absence of bile salts in the intestinal tract. It is also found in sprue, regional ileitis and chronic diarrhea. It may follow excessive use of mineral oil with resulting loss of the fat soluble vitamin. Failure of absorption can be corrected by administration of vitamin K and bile salts. This is not true when associated liver damage is present, as in long standing obstruction of the common duct. As a matter of fact, the lack of response to vitamin K therapy in such cases has been considered a measure of the liver damage and a liver function test based on this principle has been advocated. It does not seem, however, that this test is more helpful than others in differentiating long-standing jaundice of extrahepatic and hepatocellular origin.

The two chief antagonists of vitamin K are dicoumarol and salicylic acid. Both substances reduce prothrombin activity, and prolongation of the plasma clotting time results from their use. *Vice versa,* over-dosage can be corrected by sufficiently large amounts of vitamin K and blood transfusions. Salicylic acid is an intermediary link in the synthesis and breakdown of dicoumarol. It is about one-twentieth as effective and, while it reduces prothrombin regularly, it rarely depresses its level below 20 per cent. With the widespread indiscriminate and unsupervised use of salicylates, these facts are of significance. The routine administration of vitamin K together with large doses of salicylic acid in acute rheumatic fever has been advocated by some authors. Pregnancy and lactation reduce vitamin sensitivity in the mother but sucklings are sensitive to the milk transmitted dicoumarol and therefore mothers receiving dicoumarol should not be allowed to nurse. Dicoumarol also affects thomboplastin and fibrinogen and thus interferes with the clotting process in different ways.

Thrombin is the active clotting enzyme. It is a glucoprotein containing about 5 per cent carbohydrate. It is derived from prothrombin. It controls the rate of coagulation in phase three. It can coagulate fibrinogen up to 200 times its own weight and certain snake venoms with thrombin characteristics actually can clot fibrinogen up to 60,000 times their own weight. The topical application of thrombin for the control of bleeding is well known and will not be discussed here. Any excess of thrombin is inactivated by antithrombin through the formation of metathrombin. This occurs only after all fibrinogen has been disposed of and serves chiefly to prevent extension of thrombin activity to adjacent tissues. Antithrombin activity is potentiated by heparin and hirudin.

Fibrinogen, the precursor of fibrin, is a globulin containing a lipoid fraction. It, too, is formed in the liver. Its blood level is between 140 and 400 mgs. per cent. Increased amounts of fibrinogen are found in infection. It is reduced in severe liver damage by direct suppression and indirectly by reduced output of prothrombin and consequent lack of thrombin. It is also depressed by dicoumarol,

indicating a direct action of dicoumarol on the liver aside from its antagonism to vitamin K. The function of fibrinogen in clotting involves phase three where it quantitatively determines the amount of fibrin formed. Even more important is its role in immunity as exemplified by the fibrinous exudate in pneumonia and wound repair.

Heparin has puzzled everybody since Howell and his coworkers extracted it from the liver. Its chemical nature is not fully established but it is known to be a mucoitin sulfuric acid. It is formed in the mast cells of the body, especially those in the liver and the lungs. It was noted in victims of the atomic bomb that the mast cells were increased whenever the patients had shown general bleeding tendency. Contrarywise, by injecting toluidine blue which stains and blocks the granules in the mast cells, heparin production can be reduced. Heparin has a threefold action: it inhibits platelet agglutination and thus prevents liberation of thromboplastin. It retards, with a plasma cofactor, the conversion of prothrombin to thrombin. It forms, with serum albumin, antithrombin. Its therapeutic use is determined by its advantages and disadvantages as compared with other anticoagulants. It hardly produces any bleeding tendency and does not require laborious daily laboratory tests for the control of dosage. It is non-toxic. On the other side, it is still expensive. It requires multiple daily injections and, if suspended in media which slow down absorption, injections are painful. It is used extensively abroad and seems to gain favor in this country. Besides its use in the treatment of thrombosis, it has also found application in the treatment of toxemia of pregnancy and in the prevention of anaphylactic shock.

How the clotting mechanism is affected, through the liver, by the autonomous nervous system, is well demonstrated by the interesting experiments of De Takats. Sympathetic stimulation increases the tendency to thrombosis while cholinergic stimulation decreases it by the dilatory and constrictive effect on the hepatic veins and the resulting greater and smaller outflow of heparin and prothrombin.

Conclusion

The liver is directly and indirectly, in various ways, essentially involved in all phases of the clotting process. The role of the particular substances produced or controlled by the liver reaches beyond the coagulation of blood into the fields of immunology and anaphylaxis. Normal liver function—that is cellular integrity—is essential for maintained balance and is controlled by humoral and nervous factors.

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Sodium-Free Salt Substitute Again Available.

Manufacture and marketing of Neocurtasal has been resumed by Winthrop-Stearns, Inc., according to announcement by Dr. Theodore G. Klumpp, president.

On February 18, the Federal Food and Drug Administration suggested recall of salt substitutes containing lithium chloride, following reports of untoward human reactions which may have been due to lithium chloride. Two weeks later FDA recommended to manufacturers that distribution be discontinued of all salt substitutes even though some of them like Neocurtasal, contained no lithium chloride; and it further announced that all such substitutes would henceforth be regarded as new drugs rather than as foods. Under the Food, Drug and Cosmetic Act, a new drug may not be marketed unless and until a new drug application becomes effective with respect to such product.

SURGICAL TREATMENT OF ACUTE GALLBLADDER IN THE FIRST 72 HOURS*

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Your committee has asked me to speak on the topic, "Surgical Treatment of Acute Gallbladder in the First 72 Hours". I can answer this categorically by saying that I would not operate on an acute gallbladder in the first 72 hours if the symptoms have not subsided. But before we enter into the discussion of this topic, let us consider some specimens of gallbladders removed at operation to determine whether we are all talking about the same subject, because very often, when the specimen is sent to the pathologic laboratory, a report will be returned "subacute or chronic cholecystitis". Clinically, the symptoms and physical signs do not bear out this diagnosis of the pathologist.

We do not operate precipitately on these patients. For example, E. P., age 38, had two attacks of pain sometime prior to admission. She came in acutely ill with high fever and jaundice. She was not operated upon until seven days after admission when all acute symptoms had subsided. An old empyema of the gallbladder and a dilated duct were revealed. On account of the dilatation of the common duct a cholecystectomy and choledochostomy were performed. Fig. 1. To illustrate that we

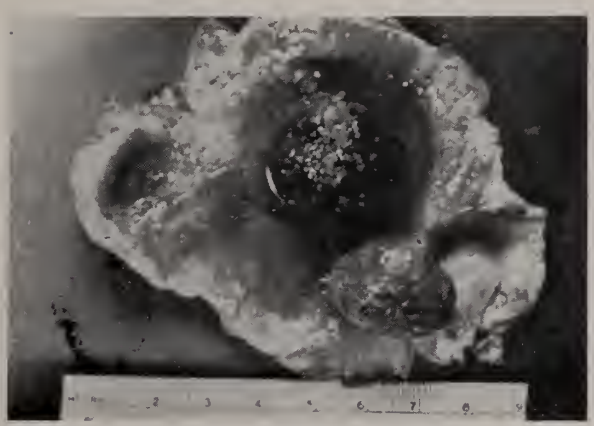

Fig. 1.—E.P. This patient was not operated upon until seven days after admission. An empyema of the gallbladder with gangrene and stones was removed.

are not unmindful of the existence of perforations of the gallbladder, we wish to present the case of J. D., age 40, who was admited to the hospital acutely ill with fever, nausea and vomiting. A diagnosis of perforation of the gallbladder was made. On account of the dangers concomitant with this condition, she was operated upon the day of admission. No perforation was found. Instead, a large gallbladder filled with pus was removed. Fig. 2. Another case of acute empyema of the gallbladder will illustrate a large organ with obstruction of the cystic duct. A cholecystectomy was performed after the acute symptoms abated. Fig. 3.

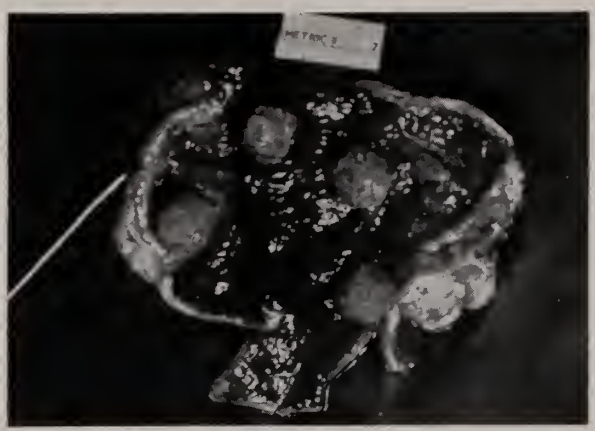

Fig. 2.—J.D. Diagnosis of perforation of the gallbladder was made. Operated upon the day of admission. An unperforated empyema of the gallbladder and cholelithiasis were found at operation.

Fig. 3.—F.S. Gangrene of the gallbladder. Cholecystectomy was performed after subsidence of the symptoms.

Now that we have placed before you the character of the case we describe as an acute gallbladder, the clinical symptoms may not be amiss. The characteristic symptoms on admission are fever and con-

*Read before the Norfolk County Medical Society, December 13, 1948.

siderable tenderness and rigidity in the right upper quadrant accompanied at times with chills and fever. The physical findings in the right upper quadrant are important. A large pyriform mass outlining the gallbladder is constantly present in these patients. To palpation, this mass is extremely painful. The favorable or unfavorable course of the patient can be followed by palpation of the gallbladder alone. All physicians and surgeons do not agree with this observation, but the diminution in size of an acutely inflamed gallbladder is noticeable by palpation from day to day.

The treatment necessary to attain the diminution of the symptoms is that the patient must be hospitalized and preferably on the surgical service because the internist, unless he has been educated to the manner in which these patients should be treated, does not know how to conduct the preoperative treatment.

It must be evident that acute empyema of the gallbladder is not a medical disease. In some hospitals, the mistake is made of assigning these patients to the medical service, and, in many instances, the internist has been found wanting in the treatment of acute cholecystitis. The internist must recognize the value of this regimen and not feed his patient by mouth, as a result of which perforations and progressive inflammation of the gallbladder are apt to occur. There is practically no danger of perforation if the above regimen is observed. Over 95% of acute gallbladders will subside under proper treatment.

The immediate medical treatment of these patients is absolute abstention of all foods including water. Parenterally, the patient receives about 3000 cc. a day of 5% glucose and amigens. Blood transfusions are given if necessary. Within the first twelve hours, there is a diminution of the symptoms and, after the first 24 hours, there is a very marked reduction of the tenderness, pain and size of the gallbladder. In addition, as a result of this preoperative care, we have not observed a case of liver death in many years.

We do not operate on these patients as an emergency case. On admission, laboratory tests such as the examination of the urine and blood are made, and an estimation of the amount of urea and sugar is determined and a blood sedimentation test may be of value. No one should consider operating upon these cases as an emergency unless the diagnosis of perforation has been made. Furthermore, because most of these patients have passed the age of 40, it is essential to examine the veins of the leg and perform a prophylactic ligation of any patient in whom this is deemed necessary. These operations can be done simultaneously with the abdominal work. This is feasible provided we have capable assistants who can do the leg work while the surgeon and his assistants perform the cholecystectomy. A Levine tube is always passed soon after admission to the hospital and retained during and after the operation.

Acute inflammation of the gallbladder must always be differentiated from acute pancreatitis and perforation of an ulcer. The symptoms of acute inflammation of the gallbladder with empyema are not as severe as those of acute pancreatitis. The serum amylase test will very often help to clear this situation. At the present time, the surgeons should not operate on a patient with acute pancreatitis on account of the high mortality following this procedure. Acute inflammation of the gallbladder with empyema is in the same category. Watchful waiting, conservatively and scientifically performed, will save lives.

Another adjunct in the treatment before and after operation is the use of penicillin and streptomycin. As in other inflammatory conditions, penicillin will reduce the intensity of the acute inflammation. It will not reduce the size of the gallbladder which can only be accomplished by abstention from food and parenteral feeding. In every patient operated upon for gallbladder disease, and especially where a cholecystectomy has been performed, penicillin should also be administered postoperatively on account of the existence of the Welch bacillus in some patients.

The complications of perforation, gangrene and empyema of the gallbladder can all be avoided by an early prophylactic cholecystectomy before infection enters into the picture.

If an acute gallbladder is operated upon as an emergency case, the surgeon is apt to perform a cholecystostomy. This is a poor operation because the mortality following it is even a little greater than the operation of cholecystectomy. Furthermore, cholecystostomy as a preliminary to cholecystectomy requires two separate individual operations performed at an interval of two to four weeks. I have not performed a cholecystostomy in over fifteen

years. Cholecystectomy is the operation of choice and can always be performed after the acute symptoms have subsided. If the "open" operation of cholecystectomy is performed, there should be no danger from injury to the common duct or hepatic artery. In 99% of the cases, the operation is performed from below upwards. With this technic, the operation is more logical because the blood supply to the gallbladder is controlled. The structures can all be visualized if proper care is taken to expose the structures around the foramen of Winslow. Occasionally, one may be required to remove the gallbladder from above downwards. If the surgeon feels safer performing a cholecystectomy in this manner, this is the way he should do it.

CONCLUSIONS

1. Acute empyema of the gallbladder should not be operated upon as an emergency case.

2. The ordinary laboratory tests should be used before any operation is contemplated.

3. *The patient must be hospitalized, preferably on the surgical service.*

4. *All fluids by mouth must be avoided and parenteral feeding substituted.*

5. Most perforations and gangrene of the gallbladder result from inefficient treatment.

6. Over 95% of acute gallbladders subside under the proper treatment.

7. Liver deaths can also be avoided under this regime.

8. In patients with varicose veins past the fourth or fifth decade, ligations of these structures should be performed. These ligations and the abdominal work can be done simultaneously provided the surgeon has a proficient team in the operating room.

9. Palpation alone can determine the stage of the disease, and watchful waiting scientifically performed results in no danger.

10. Penicillin and at times streptomycin, should be used before and after operation.

11. It must be impressed upon the internist that acute empyema is not a medical disease.

12. There is no question that cholecystectomy is preferable to cholecystostomy. Where one operation can be performed successfully, we should not subject the patient to two operations.

255 South 17th Street.

Women's Club Opposes Health Plan.

Delegates to the annual convention of the General Federation of Women's Clubs, which has a membership of five million in the United States, recently adopted a resolution which opposed "government control of health services" and supported "the extension and development of voluntary health insurance."

The resolution, which strongly opposed Mr. Truman's health plan, carried great import because it expressed the feelings of millions of women on the matter of sickness taxation. The General Federation is made up of 16,500 clubs with a total membership 7,700,000. Only 2,700,000 of those members reside in foreign countries.

When the final action was taken there were only a few dissenting votes. It appeared as though every delegate stood up to be counted when the question was asked: "All those in favor of the resolution, please stand?"

Treatment for Whooping Cough.

Scientists of the Public Health Service, Federal Security Agency, believe they may be on the way to developing a more effective treatment for whooping cough, according to a report contained in the May 13 issue of *Public Health Reports,* a Service publication.

Current studies indicate that aureomycin, a relatively nontoxic antibiotic which can be given by mouth, may shorten the course of the disease and lessen its intensity. Drs. Joseph A. Bell, Margaret Pittman, and Byron J. Olson are the investigators working on this project in the Microbiological Institute, one of the National Institutes of Health at Bethesda, Maryland.

The early favorable results of the laboratory experiments justified a clinical investigation which was promptly undertaken. So far, 20 patients have been treated in their homes with aureomycin, with apparently beneficial results.

THE CANCER COMMITTEE MEDICAL SOCIETY OF VIRGINIA

Case Reports

A 52 year old woman who had experienced no vaginal bleeding since a subtotal hysterectomy performed four years previously, began to spot. Fearful of cancer, she at once consulted her physician. He sought to relieve her of her cancerphobia and for the next two years, without even performing a pelvic examination, treated her with estrogens. The spotting gradually became more profuse and she finally visited another doctor. Pelvic examination revealed an ulceration of the left cervical lip. The biopsy report was squamous cell carcinoma, grade 2. Proper treatment was at once instituted at a tumor clinic.

A 53 year old woman who had passed the menopause five years before, developed vaginal bleeding. She consulted her doctor who, without doing a pelvic examination, prescribed some "white pills" (ergotrate?). Intermittent spotting persisted for four months, then there was a profuse hemorrhage. The same physician, still without doing a pelvic examination, prescribed more pills. When the severe bleeding persisted, the patient asked the advice of another physician. He performed a pelvic examination and found a League of Nations IV carcinoma of the cervix. Biopsy was reported squamous cell carcinoma, grade 3. He referred her to a tumor clinic.

A 47 year old woman who was still menstruating regularly, noticed some intermenstrual spotting. At the next period, she had a profuse hemorrhage. Her physician, without doing a pelvic examination, gave her "some medicine to check the bleeding." She got along all right for the next two months, then had a prostrating hemorrhage. Her physician referred her to a gynecologist who did a pelvic examination and found an eroding carcinoma of the cervix, League of Nations II, squamous cell, grade III.

COMMENT: 1. In all of the above cases, the patients' disease remained unrecognized and untreated for a significant period after the patients had reported to their physicians symptomatology which called for immediate, complete investigation.

2. These cases, and the many similar ones coming through our Tumor Clinics, teach a fundamental lesson which cannot be stressed too strongly—*abnormal vaginal bleeding must not be treated on a presumptive diagnosis. The cause must be found and the diagnosis established before any thought is given to treatment.*

3. In all three of these cases, the diagnosis could have been established immediately by what the physician should do every time he is presented with the problem of abnormal vaginal bleeding—a careful pelvic examination with visual inspection of the cervix and biopsy of any suspicious areas. Do not omit a pelvic examination because a patient is bleeding. The bleeding increases the chance of finding the source.

4. The Bureau of Cancer Control, State Health Department, Richmond, offers a tissue diagnostic service to every physician in Virginia. Even the containers for mailing specimens are supplied. Every physician can do biopsies as freely and obtain diagnoses almost as promptly as if he were practicing in a large hospital.

Color Televised Surgical Operations.

For the first time in history, surgical operations were seen on May 31st by means of natural color television. The color transmissions took place at the Hospital of the University of Pennsylvania bebefore members of the press, medical students and the hospital staff. This new development will enable large groups of medical students to study, close up in full color detail, surgical techniques and medical procedures which now can be so viewed by only a few at a time.

The color television equipment was specially designed and manufactured by Columbia Broadcasting System, Inc., for teaching surgery and medicine. Zenith Radio Corporation and Webster-Chicago Corporation collaborated with CBS in respect to the design and manufacture of the receivers. The first equipment of its kind to date—it is owned by Smith, Kline & French Laboratories—and is being demonstrated by them and later on at other medical conventions throughout the country as a contribution to medical teaching.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Medical Society Entertains Congressmen.

On Monday evening, May 16, twelve officials of the Medical Society of Virginia had as dinner guests of the Society, Members of the House of Representatives and Senate of Virginia, at the Carlton Hotel, Washington, D. C.

The purpose of this meeting was obviously to become better acquainted with Virginia's representation in Washington and to better acquaint them with problems confronting our people and the medical profession.

It is equally obvious that the advice of Virginia's representation as to how best to proceed in the future, should be solicited.

Dr. M. Pierce Rucker, President of the Society opened the meeting with a statement on current interest referring to problems and possible solutions. He indicated that government or political medicine was of ultimate concern to the public and that the best interest of all could be served only by a full understanding of the subject with respect to the past, present and future.

Each doctor present was introduced and given an opportunity to express his views.

Dr. Joseph S. Lawrence, in charge of the Washington Office of the American Medical Association made an interesting talk.

Dr. James McVey, Chairman of the Council on Medical Service of American Medical Association, St. Louis, Missouri, made a splendid contribution to the conference.

Dr. H. B. Mulholland, Charlottesville, referred to the aims of the medical profession and progress that was being made in realizing these objectives.

Dr. William R. Pretlow of Warrenton, discussed voluntary pre-payment medical care and hospitalization, their contribution and some of their problems.

Dr. John T. T. Hundley, Lynchburg, told of the purposes of the national educational campaign and referred to its progress in Virginia.

Dr. John Hazel, Arlington, told of the interest in his medical society and related a number of interesting activities.

Senator A. Willis Robertson of Virginia, presided over the rest of the meeting, introducing each member of Virginia's representation present, and the group had at least a ten to fifteen minute talk from each one.

Dr. Morrison Hutcheson of Richmond, summed up the discussion of the meeting and referred to the values of such a get-together.

Since that time, two excellent references to the meeting have been written by Dr. Russell Buxton, Newport News, and Dr. John T. T. Hundley, of Lynchburg.

Letters of appreciation from every representative present have come to the Medical Society of Virginia and although it was a social function, it was a most constructive affair.

Colorado Doctors Solve Own Problems.

A few years ago, it became evident to the Colorado State Medical Association that many patients and members of the lay-public felt that they had grievances against the practice of medicine in that state.

This appeared to be of sufficient significance to the leadership in the society to justify the setting up of the necessary machine to deal with this.

The official committee named to handle this work was "The Board of Supervisors". Although it should be borne in mind that the responsibilities and functions of this committee included matters, whom some might regard as problems of ethics, apparently the most important work of this committee was regarded to be in the interest of "cleaning their own house" of criticisms, whether justified or not, aimed at the medical profession.

After several years of operation, officials of the Colorado State Medical Association point with pride to the excellent results obtained by this system.

They point out that whereas only a small percentage of complaints being handled by this committee are found to be justifiable grievances, the existence and work of the committee constitutes a valuable

instrument in establishing confidence on the part of the public in the medical profession and also proved valuable to the profession itself.

Their committee meets regularly once a month, dealing with principles, leaving references to the individual as a last resort; but it is indicated that severe action has been taken in several instances and which has inured to the best interests of medical care and the medical profession in that state.

J. M. EMMETT, *Chairman*
Public Relations Committee

General Practitioner of the Year.

There has been so much recent interest throughout the country in the General Practitioner chosen for the year, that it is believed to be important that this selection not be overlooked in 1949.

Perhaps the procedure of nominations in the local medical societies or through the selection of the practitioner of the state, will be out-lined by the committee in the American Medical Association headquarters on this, or instructions will be sent from your state society in the near future.

In view of the fact that a number of local medical societies in Virginia still hold rather infrequent meetings, it is suggested that no one local society in Virginia overlook the opportunity of nominating a candidate for this honor.

MISCELLANEOUS

American Medical Association Assessment For Educational Campaign.

Lists of contributors to the special assessment for the educational campaign of the American Medical Association as published in the March, April and May issues of the *Monthly* gave the total contributors from Virginia as 1185. The following who have contributed through June 10th makes the total from Virginia as 1357:

Albemarle
Dr. A. M. Smith
Dr. H. L. Smith, Jr.

Alexandria
Dr. S. H. Williams
Dr. J. D. Kernodle

Alleghany-Bath
Dr. Michael I. Hanna
Dr. J. O. Easley

Arlington
Dr. Lloyd B. Burk
Dr. Joseph D. Casolaro
Dr. Jerome A. Cope
Dr. Hermann F. Diamant
Dr. William D. Dolan
Dr. John H. Gilligan
Dr. M. W. Glover
Dr. John T. Hazel
Dr. Louisa C. Littleton
Dr. Robert B. Mallett
Dr. Eugenia E. Murphy
Dr. A. R. MacPherson
Dr. M. Roy Nicholson
Dr. Robert L. Norment
Dr. K. N. Ostergard
Dr. Robert E. Pagan
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Dr. James L. Dellinger

Fredericksburg
Dr. John E. Cole

Fourth District
Dr. Leta J. White
Dr. G. N. Carter

Lynchburg
Dr. Elizabeth Edmunds

Mid-Tidewater
Dr. A. W. Lewis, Jr.
Dr. T. E. Smith
Dr. F. B. Wilson

Norfolk
Dr. M. S. Andrews
Dr. G. R. Berkeley
Dr. M. H. Bland
Dr. W. M. Bland
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Dr. R. E. Booker
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Dr. W. D. Varner

Southwest Virginia
Dr. Don L. Greever
Dr. William N. Greever
Dr. R. H. Harrington
Dr. M. C. Newton
Dr. S. H. Yokeley

Tazewell
Dr. G. D. Vermilya

Warwick
Dr. J. E. Battalia
Dr. Thomas N. Hunnicutt

Wise
Dr. Edward B. Blum

BOOK ANNOUNCEMENTS

Handbook of Materia Medica, Toxicology, and Pharmacology. For Students and Practitioners of Medicine. By FORREST RAMON DAVISON, B.A., M.Sc., Ph.D., M.B., Consultant and Toxicologist, Minneapolis, Minnesota; formerly assistant professor of pharmacology in the School of Medicine, University of Arkansas; Medical Department, The Upjohn Company, etc. Fourth Edition. St. Louis, The C. V. Mosby Company, 1949. 730 pages. With 35 illustrations, including 4 in color. Cloth. Price $8.50.

The Compleat Pediatrician. Practical, Diagnostic, Therapeutic and Preventive Pediatrics. By W. C. DAVISON, Professor of Pediatrics, Duke University School of Medicine. Sixth Edition. Duke University Press, Durham, North Carolina, 1949. Cloth. Price $4.75.

Medicine Throughout Antiquity. By BENJAMIN LEE GORDON, M.D., Member, American Association of the History of Medicine and American Academy of Ophthalmology and Otolaryngology; attending Ophthalmologist to Shore Memorial Hospital, Somers Point, New Jersey, and to Atlantic County Hospital for Mental Diseases, Northfield, New Jersey; etc. Foreword by Dr. Max Neuburger. Philadelphia, F. A. Davis Company, 1949. xvii-818 pages. Cloth. Price $6.00.

How to Become a Doctor. A Complete Guide to the Study of Medicine, Dentistry, Pharmacy, Veterinarian Medicine, Occupational Therapy, Chiropody and Foot Surgery, Optometry, Hospital Administration, Medical Illustration, and the Sciences. By GEORGE R. MOON, A.B., M.A., Examiner and Recorder, University of Illinois, Colleges of Medicine, Dentistry and Pharmacy. The Blakiston Company, Philadelphia, 1949. ix-131 pages. Cloth. Price $2.00.

Outwitting Your Years. By CLARENCE WILLIAM LIEB, M.A., M.D. Prentice-Hall, Incorporated, New York, 1949. viii-278 pages. Cloth. Price $2.75.

Help Yourself to Better Sight. By MARGARET DARST CORBETT. Prentice-Hall, Incorporated, New York, 1949. xiv-218 pages. Cloth. Price $2.50.

Essentials of Pathology. By LAWRENCE W. SMITH, M.D., F.C.A.P., Formerly professor of pathology, Temple University School of Medicine; Formerly assistant professor of pathology, Harvard Medical College, etc. and EDWIN S. GAULT, M.D., F.C.A.P., Associate professor of pathology and bacteriology, Temple University School of Medicine. Third Edition. The Blakiston Company, Philadelphia. 1948. 764 pages. 740 illustrations. Cloth. Price $12.00.

The essentials of pathology are herein presented by the study of case reports interpreted in the light of gross pathologic data and roentgenograms when pertinent and analyzed by the methods of histopathology. The method is an admirable one, but the bibliography and the various subdivisions of chapters and sections must necessarily keep up, and in step with, the current literature.

Thus under the "Lymphoid and Reticulo-endothelial Tumors", it would be well to cite Gall and Mallory's paper on the "Malignant Lymphoma" of 1942, even at the expense of omitting Gall's lesser paper of 1941. The "Malignant Lymphoma" are discussed in three pages with one case report which is followed by a discussion of "Lympho-epithelioma" and then follow five pages on "Hodgkin's Disease" and "Hodgkin's Sarcoma", and "Reticulo-endothelial Sarcoma". Only "Giant Follicle Lymphoma", "Lymphocytoma", and "Lymphoblastoma"

thus appear under the main heading "Malignant Lymphoma". This type of arrangement does not help to clarify the neophytes conception of "lymphoma" and it might be well to mention the more recent classifications and their advantages and limitations.

The selection of clinical cases to illustrate certain conditions could in some instances be improved upon. On page 298 to depict a case of "medulloblastoma", the authors chose a 34 year old woman whose symptoms began 7 years before and in which a diagnosis of pituitary tumor was made and 32 x-ray treatments were given without benefit. The age of the patient, the neurological findings given, the history, and the lack of response to irradiation were in no way typical of the average case of medulloblastoma from a purely "case teaching" point of view. On the other hand, the discussion and case report on "chordoma" seem to be extremely well chosen.

The book is, like most works on pathology, not without its "index" difficulties. Thus the subject of "pheochromocytoma-chromaffinoma" is considered on pages 299, 306, 450 and 638 with only two pages noted under each title in the index with a great deal of interesting information still not included on any of the pages listed.

Errors in the labelling of roentgenograms and identification of case reports do occur. Thus on page 251, Fig. 255, X-ray-*arm*: actually is a *forearm* and Case 63 fails to mention any involvement of the forearm, in the clinical history. The multiple bone lesions mentioned in the history, and the roentgenogram depicted are not at all convincing for the heading "Bone: Benign Giant Cell Tumor" nor can we agree with the text that it "tends to occur at the diaphyseal ends of the long bones." Jaffé's work is mentioned but his three types of giant cell tumors are not clearly outlined in the text.

In general, the authors have carried out their "case history" method with unusual success. To incorporate the rapid and tremendously changing literature of "Pathology" into a case book for sophomore medical and dental students is indeed, a monumental and never ending task.

F. B. MANDEVILLE

New Books.

The following books are recent additions to the Library of the Medical College of Virginia, and are available to our readers under usual library regulations:

Addis—Glomerular nephritis.
Alford—Cerebral localization: outlines of a revision.
Bard—The doctor wears three faces.
Basic science for orthopedics.
Bradley—Pathological physiology of uremia in chronic Bright's disease.
Brodal—Neurological anatomy in relation to clinical medicine.
Gogan—Neurology of the ocular muscles.
Conn—Current therapy.
Chopra—Indigenous drugs of India; their medical and economic aspects.
Dressler and Roesler—An atlas of electrocardiography.
Encyclopaedia Brittanica. New 1949 ed.
Eppinger—Die permeabilitaes pathologie.
Fuch—Atlas of ocular fundi.
Glick—Techniques of histo- and cytochemistry.
Grassé—Traité de zoologie. Vol. XI.
Helmholtz—On thought in medicine.
Henle—On miasmata and contagia.
Kabat and Mayer—Experimental immunochemistry.
Krantz and Carr—Pharmacologic principles of medical practice.
Levine and Harvey—Clinical auscultation of the heart.
Lockhart—Living anatomy.
Modern drug encyclopedia and therapeutic index.
Nungester—An illustrated study aid for medical bacteriology.
Rowe—Elimination diets and patients allergies. 2d ed.
Singer—Short history of medicine.
Virginia State Health Department—Survey of hospital facilities in Virginia.
Von Weizsacker—Der Gestalt Kreis.
Witmer—Psychiatric interviews with children.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for May 1949 as compared with the same month in 1948, and for the period of January through May 1949 compared with the same period in 1948, is as follows:

	May 1949	May 1948	Jan.-May 1949	Jan.-May 1948
Typhoid and paratyphoid	8	12	31	53
Diarrhea and dysentery	186	205	1,285	1,393
Measles	3,416	1,478	18,837	4,192
Scarlet fever	41	76	358	507
Diphtheria	9	16	61	99
Poliomyelitis	1	3	9	9
Meningitis	6	9	46	46
Undulant fever	6	10	25	39
Rocky Mountain spotted fever	10	5	11	5
Tularemia	1	4	8	24

ROCKY MOUNTAIN SPOTTED FEVER

With the recurrence of the tick season and the possibility of infection with Rocky Mountain spotted fever it may be useful to review our knowledge of its etiology, incidence, treatment and control measures employed.

Incidence:

Table I shows the number of cases of Rocky Mountain spotted fever reported in Virginia since 1931 and the deaths for this same period.

The monthly distribution of reported cases follows the pattern of previous years with the highest incidence in June-July-August.

Since 1941, Rocky Mountain spotted fever has been reported from 88 counties in the State. During this period no reports have come from the other 12 counties: Bath, Bland, Craig, Floyd, Giles, Highland, Mathews, Northumberland, Pulaski, Surry, Washington, and Westmoreland.

The fatality rate is somewhat lower in the Eastern than in the Western States. In the 10 year period (1930-39) the crude fatality rate for Idaho and Montana was 28.1% while for Maryland and Virginia it was 18.4%.

Etiology:

In Virginia the American dog tick (Dermacentor variabilis), also locally called the wood tick, is probably the only vector of spotted fever. The adult males and females are oval in shape, almost ½ inch in length and brown in color. The females are darker and have a larger area of lines, hairs and other markings just behind the "head".

Diagnosis:

From the standpoint of laboratory assistance, a diagnosis of active Rickettsial infection cannot be made by serological test alone. Diagnosis can be arrived at only by correlation of laboratory findings and clinical picture. There is no single positive titer, either in the complement fixation test or the Weil-Felix, which is diagnostic of present infection. A *rising* titer is very strong presumptive evidence of present active Rickettsial infection. For this reason it is very important to obtain two or

TABLE I

	1931	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Reported Cases	6	9	23	47	45	50	54	72	50	46	33	47	56	81	99	93	67	64
Deaths	0	1	4	8	10	9	9	13	5	7	11	8	16	14	21	14	10	9

Up to May 28, 1949, 11 cases had been reported in Virginia this year, 10 in May and 1 in April. There have been no deaths.

Table II shows the monthly distribution of the 64 cases of Rocky Mountain spotted fever reported in Virginia in 1948.

TABLE II

January	February	March	April	May	June	July	August	September	October	November	December
				5	17	17	19	2	4		

more successive specimens of serum from every patient, seven to ten days apart. The first specimen should be taken from the fifth to the tenth day of illness.

Control and Treatment:

Protection from Rocky Mountain spotted fever through vaccination lasts approximately one year and unless one is going to spend time in known infected areas, vaccination is not recommended. Vaccination is recommended for those whose work or play takes them into the woods for prolonged periods—highway workers, loggers, campers. Personal protective measures such as proper clothing and daily inspection for ticks are advisable.

In the treatment of Rocky Mountain spotted fever Aureomycin has proved a spectacular remedy—almost a specific. Cases with high temperature and characteristic rash have been rendered afebrile after 48-72 hours of intensive treatment with this new antibiotic.

United States Has Lowest Rates.

Final tabulation of births and maternal deaths for 1947 by the National Office of Vital Statistics indicates a new record low maternal mortality rate of 1.3 per thousand live births, according to an editorial in a recent issue of the *Journal of the American Medical Association.*

No other Nation has reported a lower rate.

In 1933 the American rate of 6.2 placed this country eleventh among the leading Nations. Since then the drop to 1.3, amounting to a 79% reduction, has "undoubtedly raised the rank of the United States to first place or close to first place" according to the Journal.

"The phenomenal reduction in maternal mortality in the United States," said the Journal, "has not been restricted to any single State or group of States, but has been relatively uniform throughout the entire country."

None of the States in 1947 had a rate above 2.6. Connecticut, Delaware, Iowa, Massachusetts, Minnesota, Oregon, Rhode Island, Utah, and Wyoming reported a rate less than 1.0, with Minnesota the lowest at 0.6.

None of the States had a rate lower than 4.3 in 1933. In that year the spread between the highest and lowest was from 11.5 to 4.3, or 7.2. In 1947 the spread dropped to 2.0.

The great improvement in the rate was reflected among non-whites as well as white Americans. For whites the rate declined from 5.6 to 1.1 and for non-whites from 9.7 to 3.3.

"It is also abundantly clear," stated the *Journal,* "that this form of health progress has been extremely general throughout the United States during these 15 years."

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—Mrs. R. M. Reynolds, Norfolk
President-Elect—Mrs. C. E. Holderby, Hilton Village
Recording Secretary—Mrs. T. S. Chalkley, Richmond
Corresponding Secretary—Mrs. Charles Lupton, Norfolk
Treasurer—Mrs. Reuben Simms, Richmond
Parliamentarian—Mrs. H. W. Rogers, Norfolk
Historian—Mrs. M. H. Harris, West Point

Warwick County Auxiliary.

At the April luncheon meeting of this Auxiliary, Miss Virginia Fox, educational director of the Elizabeth Buxton Hospital School of Nursing, presented a film on cancer "The Doctor Speaks His Mind".

At the meeting on May 25th, Mrs. Chester D. Bradley, President, selected the following committees for the annual meeting of the State Auxiliary to be held at Old Point Comfort, October 9-12: Reception: Mrs. William A. Read and Mrs. Frederick Nimrod Thompson; Registration: Mrs. Guy C. Amory and Mrs. J. W. Carney; Flowers: Mrs. Russell Von Lehn Buxton; Transportation: Mrs. William A. Mitchell and Mrs. Paul Hogg; Entertainment: Mrs. Barnes Gillespie and Mrs. Louis Richman. Mrs. Thomas N. Hunnicutt, Jr., will give the address of welcome.

EDITORIALS

Sir William Osler (1849-1919)*

ONE hundred years ago Bond Head was on the edge of the Canadian Wilderness. The Rev. Featherstone Osler's home was the social center. Chippewa Indians often paid migratory visits and the "stump farmers" of the neighborhood gathered on all occasions. Every 12th of July the Orangemen with their sashes and rosettes, gathered at the Corners and marched the mile to the parsonage, where speeches were made and felicitations offered in return. On July 12, 1849, the 8th Osler child was born. His name was to have been Walter Farquhar, but later in the day when he was shown to the Orangemen, they dubbed him young Prince of Orange and insisted that he be named William. Thus a future Regius Professor of Medicine of Oxford University was ushered into the world on the American frontier.

What wonderful changes in medicine this young Canadian saw and brought about. After a good classical education, Osler studied medicine at Toronto and at McGill. At neither place were there laboratories, but at McGill the students had the run of the Montreal General Hospital. Upon graduation in 1872 Osler went to London and worked under Burdon Sanderson in Physiology. Later he went to Berlin and worked under Virchow and to Vienna where he took a number of courses. He returned to Canada in the summer of 1874. The following September he was appointed lecturer of the Institutes of Medicine, which included Physiology and Pathology and everything that was taught with a microscope. The next year he ordered 12 microscopes, the first at McGill, which he paid for out of his own meagre salary. His first clinical work was in the smallpox wards of the Montreal General Hospital. It was not long before he was doing all the autopsies. Four years later he succeeded Dr. Drake as physician to the Montreal General Hospital.

In 1884 Osler was called to the University of Pennsylvania. Pennsylvania, following the lead of Harvard, had just adopted a three year curriculum. Osler introduced bedside teaching. Five years later he went to Baltimore as Physician-in-Chief of the Johns Hopkins Hospital. Here in Baltimore, he, together with Dr. William H. Welch and others of that wonderful first Faculty, developed a new medical school untrammelled by traditions. The result was a Medical University with the best features of German and English medical teaching—laboratories, bedside teaching, and long term residencies.

Finally, in 1905 he received a call to Oxford to succeed his old teacher, Burdon Sanderson. He, himself, looked on the move as a kind of retirement.

Wherever he went—Montreal, Philadelphia, Baltimore or Oxford—he was a medical catalyst. He improved medical instruction, stimulated medical societies for graduates, as well as undergraduates. Medical publications took on new life. He activated libraries, and stimulated public interest in health matters. No one has done more for American Medicine.

*This is the third of a series "Doctors for whom the public should be thankful."

The Influence of Two Virginia Cesarean Sections

WHEN the knowledge obtained through a new discovery is added to the great pool of common knowledge it may stimulate further advances in the same line or even in entirely unrelated fields. Such knowledge may spread in one of three ways (1) personal contact in ordinary every day relations (2) publication (3) pressure actuated by desire for either gain or fame. In the first instance the spread is slow

and limited in extent. When a report is made in a magazine the knowledge is disseminated more rapidly, depending upon the character of the journal and its circulation. Oliver Wendell Holmes' original communication on the contagiousness of puerperal fever attracted no immediate attention because it was published in a short-lived New England magazine that had only local subscribers. The pressure method, so common in modern advertising, is seldom used in medicine, although the controversy incident to the discovery of anesthesia is a notable exception.

Two Cesarean operations performed in Virginia about the beginning of the Nineteenth Century afford good examples of the first two methods of the dissemination of new knowledge. In 1794 Dr. Jesse Bennett of Rockingham County, Virginia, performed a Cesarean Section upon his own wife and removed both ovaries. Dr. Alexander Humphreys of Staunton was called in consultation and both he and Dr. Bennett failed to deliver the baby with forceps. Believing that she would die whether a craniotomy or a Cesarean Section were done, Mrs. Bennett chose the section. Dr. Humphreys refused to operate. Dr. Bennett operated and saved both mother and child. To make sure that he would not be subjected to such an ordeal again, he removed both ovaries. Dr. Joseph L. Miller was the first to describe this operation. (*Am. Med. His. N. S.* 10:23,1938). Some three years after the operation Dr. Bennett moved to the Ohio River with his wife and daughter, where he developed a practice that extended over an area of 100 to 150 miles in diameter.

In 1827 Dr. John Lamberth Richmond performed what is usually considered the first Cesarean section in the United States. It was reported in the *West Journal of Med. & Phys. Sc.* 3:485,1830. As it was performed at Newtown, Ohio, less than 85 miles from Mason County, Kentucky, where Dr. Bennett had been living for 30 years, it is likely that Dr. Richmond knew of Dr. Bennett's successful operation.

It is also likely that Bennett's operation had influence in a different direction. Dr. Ephraim McDowell studied medicine under Dr. Alexander Humphreys before he went to the University of Edinburgh. Dr. Hugh Trout is of the opinion that McDowell must have visited Humphreys when he returned to this country in the summer of 1794. If so, then they must surely have discussed the remarkable operation that Jesse Bennett had performed six months previously and a knowledge of this operation must have influenced him to his decision to operate when confronted with a case of ovarian cyst in 1809, a condition which up until then was considered hopeless. (*Am. Med. Hist. N. S.* 10:168,1938.)

The second Virginia Cesarean Section was performed by an "irregular practitioner" of Fairfax County in 1828, It was reported by Dr. W. L. Weems in the *American Journal of Medical Science* (8:257,1936). Dr. Weems witnessed the operation but had no part in it. The fetus was in a half dissolved state. The mother died in the second week after the operation, her death being attributed to her eating animal food and drinking cider. The interesting feature in this case was that two or three sutures were placed in the uterus. Before this the uterus had been left unsutured. From this time on, more and more operators closed the uterine wound with sutures. In 1852, Frank E. Polin of Springfield, Kentucky, used silver wire for this purpose. A list of these operations was compiled by Robert P. Harris (*Am. J. Med. Sc.* 75:313,1878). Dr. Nicholson J. Eastman (*Am. J. Obst. & Gynec.* 24:919,1932) is of the opinion that these operations tremendously influenced Sänger whose classical report in 1882 marks the beginning of the modern period in the history of this operation.

Little did Dr. Jesse Bennett dream, when confronted by his fearful problem, that its successful solution would have any influence in the performance of one of the

world's great operations, one that became a mile stone in the history of surgery. While the "irregular practitioner" of Fairfax County remains unknown, his work is not forgotten.

Miss Agnes Edwards

ON May 9th, Miss Edwards had to stop work temporarily on account of a slight cerebral vascular accident. Fortunately the area involved was small and unimportant. She has now left the hospital and is recuperating rapidly. However, her physician wants her to rest for a couple of months. For the first time in many years the MONTHLY has been without her guidance.

The VIRGINIA MEDICAL MONTHLY was started in 1874 by Miss Edwards' father, the late Dr. Landon B. Edwards. Until his death in 1910, Dr. Edwards owned the magazine and ran it as a private venture. As his children grew up, the publishing of the MONTHLY (or SEMI-MONTHLY, for at one time it was published twice a month) became a family affair. We doubt if Miss Edwards, herself, knows when she first began working on the MONTHLY.

Upon Dr. Edwards' death, his son, Dr. Charles M. Edwards, became managing editor and continued as such until he entered the Service in 1918. In 1919, the Medical Society of Virginia purchased the MONTHLY and continued to publish it under the direction of a Publication Committee and Miss Edwards. Twenty-five years ago, Miss Edwards became, in addition, the executive secretary-treasurer of the Medical Society of Virginia. These two positions she has continued to fill to the satisfaction of every one.

In a real sense, Miss Edwards has grown up with the MONTHLY. It is a part of her life. She and the MONTHLY are inseparable. She has built for herself and the MONTHLY an enviable nation-wide reputation. The Council is thoroughly cognizant of how much the Medical Society of Virginia owes Miss Edwards for her long and faithful service. At its last meeting, it appointed a committee to arrange Miss Edwards' partial or full time retirement at her pleasure. The thought of the Council was that whenever Miss Edwards felt that the burden was too great, some satisfactory arrangement would be made. Miss Edwards' long experience is too valuable to lose entirely. Possibly it would have been better had the Council acted sooner. At any rate, we hope that Miss Edwards will soon be back at work in her full capacity or at least for a short time each day.

Floral Eponym

Zaluzianskyia

ZALUZIANSKY, ADAM, FL.1592

ZALUZIANSKY was a Polish physician and botanist. He was born in the middle of the XVI Century and became a distinguished professor of medicine in the University of Prague. By some, he is said to have discovered the sex of plants, but that is an error, for in his time knowledge of this subject was scarcely more advanced than that of the ancients. His principal works are: *Methodi rei herbariae libri tres,* Prague, 1592; *Harmonia confessionum orthodoxarum regni* Bohemiae, Prague, 1609; Animadversiones in Galenum et Avicennam.

Zaluzianskyia, night phlox, is a genus of twenty species of fragrant South African plants, most of which are night blooming.

SOCIETIES

The Southwest Virginia Medical Society

Held its Spring meeting on May 26th at the Hotel Roanoke, Roanoke, under the presidency of Dr. R. M. DeHart, Radford. At the afternoon session, the following program was presented: Geriatric Dermatoses by Dr. William H. Kaufman, Roanoke; and Acute Poisoning in Children by Dr. Jay M. Arena, Duke University, Durham, North Carolina. Dr. John T. T. Hundley, Lynchburg, State Education Chairman, and Mr. Henry S. Johnson, Public Relations Director, Medical Society of Virginia, gave some highlights on Compulsory Health Insurance. The Society went on record as being opposed to Compulsory Health Insurance. Following a business session, social hour, and banquet, Dr. Robert N. Cradick, Duke University, Durham, North Carolina, spoke on Psychosomatic Gynecology, and Dr. William N. Nicholson, also of Duke University, on Some Neurologic and Vascular Complications of Diabetes Mellitus.

The Fall meeting of this Society will be held in Radford the first Thursday in October, at which time one of the guest speakers will be Dr. Karl J. Karnaky of Baylor University, Houston, Texas, who will speak on Endometriosis.

Dr. Andrew F. Giesen, Radford, is secretary-treasurer of this Society.

The Fauquier County Medical Society

Held its regular monthly meeting on May 19th, with Dr. V. L. McCullers presiding.

The program consisted of interesting discussions on community health problems and on the status of workers and their freedom in choice of physicians under existing compensations laws.

Dr. William R. Pretlow was elected delegate and Dr. V. L. McCullers alternate delegate to the Medical Society of Virginia meeting to be held in October, at Old Point Comfort, Virginia.

Election of officers was accomplished with Dr. M. B. Hiden being chosen as President for the coming year. Other officers elected were: 1st Vice President, Dr. Charles Martin of Manassas; 2nd Vice President, Dr. O. L. Huffman of Marshall; Secretary and Treasurer, Dr. James L. Dellinger of Warrenton. A vote of thanks was given the retiring officers for their work during the past several years.

The meeting was concluded with a short scientific program consisting of the showing and discussion of x-rays on interesting orthopedic cases.

JAMES L. DELLINGER

Norfolk County Medical Society.

At the annual meeting of this Society, the following officers were elected: President, Dr. Frank P. Smart; president-elect, Dr. George Schenck; vice-president, Dr. Brock D. Jones; secretary, Dr. Walter P. Adams; and treasurer, Dr. J. Franklin Waddill. The last two were re-elected.

Augusta County Medical Association.

The regular meeting of this Association was held on May 4th at the General Wayne Hotel in Waynesboro. Dr. Elmer L. Sevringhaus gave a very interesting talk on "Therapy with Estrogens and Progesterone in Disorders of the Female Reproductive System". He is Director of Clinical Research of Hoffman-LaRoche, Nutley, New Jersey, and is considered an authority on this subject. Dr. Charles Putney of Staunton read a paper on "Socialized Medicine". Delegates and alternates to the annual meeting of the State Society were elected at this time.

CHARLES F. GAYLORD, *Secretary*

The Tazewell County Medical Society

Held its regular bi-monthly meeting on April 21st in Tazewell, with Dr. G. D. Vermilya, president, presiding. Dr. L. L. Thompson, Richlands, read a paper on Alimentary Dysglycemia. Dr. F. E. LaPrade, Jewell Ridge, was elected to membership, and Dr. Mary Elizabeth Johnston, Tazewell, was named delegate to the State meeting in October.

Northampton County Medical Society.

Dr. J. M. Lynch, president of this Society, has appointed Dr. John R. Mapp, Nassawadox, as secretary-treasurer, to succeed Dr. Charles Garcia who is now in the Medical Corps of the U.S.A.F. at Langley Field. The next meeting of this Society will be a picnic on July 14th.

NEWS

Annual Meeting of the Medical Society of Virginia.

The ghosts of the past are walking at Old Point Comfort! After 69 years the Medical Society of Virginia is coming back to the famed tourist resort on the shores of Hampton Roads and Chesapeake Bay. Many changes have come over our nation and our profession since the meeting of 1881. The doctors who met in the Hygeia Hotel (predecessor to the Chamberlin) at Old Point Comfort were only 16 years removed from the bitterest and bloodiest war of all history up to that time. Many had served in it with distinction. The president's chair was occupied by Dr. Hunter Holmes McGuire of Richmond in whose arms Stonewall Jackson died after the battle of Chancellorsville. Only a short walk from the hotel was grim old Fortress Monroe in which Jefferson Davis had been imprisoned for several years after the war. The Confederate chief was still alive and had just published that same year of 1881 his two-volume history, "The Rise and Fall of the Confederate Government."

In 1881 the medical profession was just entering upon that great era of discoveries and advances in both medicine and surgery which has continued down to the present day. The typhoid bacillus had been discovered in 1880 and the tubercle bacillus was to be discovered in 1882. Max Saenger of Leipzig was to make known his improved cesarean section in 1882, but James Thacker Boutelle of Hampton, Virginia, had already closed the uterine incision with three silk sutures in 1879. In spite of all this, therapy was still in its infancy. The mainstays were purging, poulticing, blistering, cupping and leeching.

In 1881 there was no Newport News and no Phoebus, only Hampton. Still the doctors attending the meeting at Old Point Comfort found plenty of recreation between the scientific sessions. The Commanding Officer of Fortress Monroe threw open the fortifications for their inspection. Carriages were procured to take the doctors over to Hampton Institute and the National Soldiers' Home just outside of Hampton where they were cordially entertained. Mr. Harrison Phoebus, the genial proprietor of the Hygeia Hotel, arranged a steamboat trip to Yorktown. A guiding light of the meeting was the venerable Dr. George William Semple of Hampton who was head of the Local Committee on Arrangements.

Such were the thoughts which went through the mind of your correspondent Wednesday evening, May 25 last, as he sat in a private dining room at the Chamberlin Hotel with the Local Committee on Arrangements headed by Dr. Paul J. Parker, Hampton, and Dr. Waverly R. Payne, Newport News. The entire medical profession of the Lower Peninsula was represented from Hilton Village to Newport News to Hampton to Phoebus. It is too early to tell you about the many treats we are preparing for you down in this showplace of the nation. Suffice it to say that if the shade of George William Semple was present that evening it must have been highly satisfied by the scope of our plans for your entertainment. George William Semple was not a man to do things by halves!

It is our goal to make the social side of the annual meeting a thing that you will remember for the rest of your life. Look what we have to work with! Your meeting is set in a showplace which is a play place—the historic yet sumptuous Chamberlin Hotel, the beautiful aquatic panorama of Hampton Roads and Chesapeake Bay, all the sports, and a multitude of tourist attractions which include the shipyard, the Langley Field Air Base, Fortress Monroe, the Mariner's Museum and, only a short run up the Peninsula, the historic shrines of Yorktown, Williamsburg and Jamestown. So put it on your calendar—annual meeting of the Medical Society of Virginia, Chamberlin Hotel, Old Point Comfort, October 9 to 12, 1949.

CHESTER D. BRADLEY, M.D.

Scientific Exhibits

Very excellent and ample space for the Scientific Exhibits at the Chamberlain has been assigned to the Exhibit Committee. The same decorating firm which furnished the booths last year will again service us. Those who saw the exhibits last year will remember the same equipment is furnished as is used at the A. M. A. Viewing boxes for transparencies are also furnished which are fitted with fluorescent lights.

In order to secure desirable space, all exhibitors are requested to write the Chairman of the Scientific Exhibit Committee, Vincent W. Archer, Box 1637, University Station, Charlottesville, for ap-

plication blanks as soon as possible. This will enable the committee to "block out" the space more efficiently.

Medical College of Virginia.

The Commencement Exercises of the One Hundred Twelfth Session of the College was held on June 7th at The Mosque in Richmond. The Commencement Address was delivered by the Honorable William Munford Tuck, Governor of Virginia. The Honorary Degree of Doctor of Science was presented Dr. Wortley Fuller Rudd, Dean Emeritus, School of Pharmacy of the College.

Alumni Day was held on June 6th. The following officers were elected: Dr. Alan J. Chenery, Washington, D. C., succeeded to the presidency; Dr. Donald S. Daniel, Richmond, president-elect; Drs. Alex. F. Robertson, Staunton, and Alex Haller, Wytheville, W. E. Lock, Miss Julian D. Watkins, and Claiborne Robins, all of Richmond, vice-presidents; and Dr. Harvey B. Haag, Richmond, treasurer. Dr. H. Hudnall Ware, Richmond, was among those elected to the board of trustees. Dr. Jack W. Witten, Tazewell, and Dr. William F. Mercer, Richmond, were honored by the Alumni Association. Dr. Mercer is the third oldest living alumnus of the College, having graduated in 1882.

There were sixty-eight graduates in medicine; thirty-one in dentistry; thirty-eight for bachelor of science in pharmacy; thirteen bachelor of science in nursing; nine bachelor of science in nursing education; thirty-six in nursing; and thirty-eight in physical therapy. The following are graduates in medicine with their hospital appointments:

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond: Drs. Leo Blank, Hartford, Conn.; Eleanor Emily Jane Bundy, Decatur, Ga.; Wiley Holt Cozart, Fuquay Springs, N. C.; Edmund Noel Gouldin, Tappahannock; Fleta Adelaide Gregory, Norfolk; Samuel Hellerman, West Hartford, Conn.; Herbert Chester Hoover, Williamson, W. Va.; Robert Aaron Jackson, Wyliesburg; Beverly Jones, Charlottesville; William Cecil Link, Bloomington, Ind.; James Gilbert Lyerly, Jacksonville, Fla.; William Bigbie Moncure, Radford; Dillard McCary Sholes, Jr., Fredericksburg; Clarence Vincent Townsend, Inwood, W. Va.; Robert Klaus Waller, New York. N. Y.; and Sarah Lou Warren, Prospect Hill, N. C.

STUART CIRCLE HOSPITAL, Richmond: Dr. William Cary Hancock, Richmond.

JOHNSTON-WILLIS HOSPITAL, Richmond: Dr. John Pearl Ray, Jr., Norfolk.

NORFOLK GENERAL HOSPITAL, Norfolk; Dr. Benjamin Arthur Hubbard, Jr., Norfolk.

RIVERSIDE HOSPITAL Newport News: Dr. Edwin Herman Gray, Douglas, Wash.

UNIVERSITY OF VIRGINIA HOSPITAL, Charlottesville: Dr. Lilliane Ferrer Pinero, Arecibo, P. R.

UNION MEMORIAL HOSPITAL, Baltimore, Md.: Drs. Ruth Margaret Allen, Norfolk; and Alice Virginia Thorpe, Richmond.

ST. ELIZABETH'S HOSPITAL, Washington, D. C.: Dr. Virginia Claire Baldwin, Atlee.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL, Washington, D. C.: Dr. Frederick Mosby Williams, Virginia Beach.

PRESBYTERIAN HOSPITAL, Chicago, Ill.: Dr. Arnold Lanehart Brown, Jr., Elkhart, Ind.

MICHAEL REESE HOSPITAL, Chicago, Ill.: Dr. Harold Oliver Kamons, Parkersburg, W. Va.

GEORGE F. GEISINGER MEMORIAL HOSPITAL, Danville, Pa.: Dr. Francis Jones Dillard, Cartersville.

WESTERN PENNSYLVANIA HOSPITAL, Pittsburgh, Pa.: Dr. Joseph Geza Doboy, Central City, Pa.

LANCASTER GENERAL HOSPITAL, Lancaster, Pa.: Dr. Ulric Joachim Laquer, Philadelphia, Pa.

PHILADELPHIA GENERAL HOSPITAL, Philadelphia, Pa.: Dr. Philip London, Atlantic City, N. J.

SEWICKLEY VALLEY HOSPITAL, Sewickley, Pa.: Dr. Carl Elmer Stahl, Pittsburgh, Pa.

ROBERT PACKER HOSPITAL, Sayre Pa.: Dr. Ralph John Stalter, Pittsburgh, Pa.

LANKENAU HOSPITAL, Philadelphia, Pa.: Dr. Robert George Stineman, St. Davids, Pa.

BRYN MAWR HOSPITAL, Bryn Mawr, Pa.: Dr. Ralph Burnley Winston, Norfolk.

BRIDGEPORT HOSPITAL, Bridgeport, Conn.: Dr. Robert Edward Dutton, Jr., Danbury, Conn.

ST. FRANCIS HOSPITAL, Hartford, Conn.: Dr. William Warren Walthall, Jr., Richmond.

CHARITY HOSPITAL, New Orleans, La.: Dr. Hilda Garcia de la Noceda, Rio Piedras, P. R.

STATE OF WISCONSIN GENERAL HOSPITAL, Madison, Wis.: Drs. Francisco Gonzalez, Caracas, Venezuela, and Charles Gwyn Thompson, Marion.

HENRY FORD HOSPITAL, Detroit, Mich.: Dr. Edward William Green, Portsmouth.

EDWARD W. SPARROW HOSPITAL, Lansing, Mich.: Dr. Frank Joseph Sykes, Berkley, Mich.

CINCINNATI GENERAL HOSPITAL, Cincinnati, Ohio.: Dr. Ralph Edwards Haynes, Freeman, W. Va.

PRESBYTERIAN HOSPITAL, Denver, Col.: Dr. Robert Earl Holzgrafe, Evansville, Ind.

CHARLESTON GENERAL HOSPITAL, Charleston, W. Va.: Dr. George Thompson Hoylman, Buckhannon, W. Va.

OHIO VALLEY GENERAL HOSPITAL, Wheeling, W. Va.: Dr. Richard Samuel Stephens, Bluefield, W. Va.

ST. MARY'S HOSPITAL, Huntington, W. Va.: Dr. Harry Nenni, Huntington, W. Va.

JOHN SEALY HOSPITAL, Galveston, Tex.: Dr. Jacquelyn Marie Kirk, Pineville, W. Va.

BETH ISRAEL HOSPITAL, Newark, N. J.: Dr. Morton Kurtz, New York, N. Y.

VANDERBILT UNIVERSITY HOSPITAL, Nashville, Tenn.: Dr. Robert E. McClellan, Bristol, Tenn.

METHODIST HOSPITAL, Indianapolis, Ind.: Dr. John Hoover Moon, Bluffton, Ind.

MARY FLETCHER HOSPITAL, Burlington, Vt.: Dr. David Shute Palmstrom, Needham, Mass.

JAMES WALKER MEMORIAL HOSPITAL, Wilmington, N. C.: Dr. Irving Everet Shafer, Jr., Salisbury, N. C.

CITY MEMORIAL HOSPITAL, Winston-Salem, N. C.: Dr. William Thomas Walker, Brown Summit, N. C.

MORRISANIA CITY HOSPITAL, New York, N. Y.: Dr. Stanley Simon, New York, N. Y.

MARY HITCHCOCK MEMORIAL HOSPITAL, Hanover, N. H.: Dr. William Overton Winston, Norfolk.

U. S. ARMY HOSPITAL INTERNSHIPS

WALTER REED GENERAL HOSPITAL, Washington, D. C.: Drs. Martin Samuel Goldfarb, Charleston, W. Va.; Joseph Henry Masters, Newport News, and Stanley Newman, Cleveland Ohio.

U. S. NAVAL HOSPITAL INTERNSHIPS

U. S. NAVAL HOSPITAL, Bethesda, Md.: Dr. Suzanne Williamson Brown, New Market.

U. S. NAVAL HOSPITAL, Great Lakes, Ill.: Drs. Robert Thor Melgaard, Concord, Tenn.; and Mary Weatherly Tilden, Jamestown, N. C.

U. S. NAVAL HOSPITAL, Philadelphia, Pa.: Drs. Heth Owen, Jr., Richmond; and John Lemuel Thornton, Warrenton.

U. S. NAVAL HOSPITAL, San Diego, Calif.: Dr. Robert Stephen Turner, Jr., Roanoke.

U. S. MARINE HOSPITAL INTERNSHIPS

U. S. MARINE HOSPITAL, Norfolk: Dr. Donal Snellings Parker, Bedford.

U. S. MARINE HOSPITAL, Seattle, Wash.: Dr. Norman William Pinschmidt, Richmond.

Dr. Sidney Shields Whitaker, Jr., Bristol, Tenn., was also a member of this graduating class.

Dr. Coleman Honored.

Dr. Claude C. Coleman of Richmond, pioneer neurological surgeon in Virginia and the South, was honored on May 30th when thirteen prominent neurological surgeons from various sections of the nation were hosts at a celebration in his honor. These doctors all trained under Dr. Coleman at the Medical College of Virginia and are as follows: Drs. Alexander C. Johnson, Great Falls, Montana; James L. Thomson, Norfolk; J. G. Lylerly, Jacksonville, Florida; Archer A. Wilson, Charleston, W. Va.; Carroll A. Brown, Sioux City, Iowa; Charles E. Troland, Richmond; W. Gayle Crutchfield, Charlottesville; Edmund J. Morrissey, San Francisco, California; Frank H. Mayfield, Cincinnati, Ohio; Everett G. Grantham, Louisville, Kentucky; Jack Ulmer, James Walker, and John Meredith, all of Richmond. Two other hosts, who are general surgeons, but also trained under Dr. Meredith, are Drs. J. M. Emmett, Clifton Forge, and R. J. Wilkinson, Huntington, W. Va. The special occasion for this celebration was to commemorate the founding of the department of neurological surgery at the Medical College of Virginia thirty years ago with Dr. Coleman as the founder.

Technical papers were presented during the day and at night about seventy persons attended a dinner at which Dr. Coleman was presented with a silver platter engraved with the names of the 15 hosts. Among the visitors at the dinner were the following neurologists: Dr. Howard A. Naffziger, University of California, San Francisco; Dr. Gilbert Horrax, Lahey Clinic, Boston; Dr. Winchell McK. Craig, Mayo Clinic, Rochester; Dr. R. Glen Spurling, University of Louisville, Kentucky; and Dr. Charles Bagley, Jr., University of Maryland, Baltimore.

The Base Hospital No. 45 Veterans Association

Met at the McGuire Clinic, Richmond, on May 30th for their twenty-ninth reunion. Three memorial windows dedicated to deceased members of the Association were presented. They are in memory of Dr. Stuart McGuire, commanding officer of the hospital unit and one time head of McGuire Clinic; Dr. William Lowndes Peple, chief of surgical services in the base hospital; and Dr. J. Garnett Nelson, chief of medical services in the unit. The windows are installed in the clinic library. At the business session, Mrs. Stuart McGuire was elected commander of the Association; Dr. John Bell Williams, vice-commander; Senator Lloyd C. Bird, re-elected adjutant; Mr. Thomas C. Boushall re-elected finance officer, and Mr. Robert P. Quarles was re-elected assistant to the commander and the adjutant.

Dr. Edwin P. Lehman,

Charlottesville, has been elected to membership in the Raven Society of the University of Virginia. This is one of the highest honors awarded a University of Virginia student, alumnus or faculty member.

Dr. H. Hudnall Ware, Jr.,

Richmond, was recently honored by being made a member of Omicron Delta Kappa and Mortar Board, national honorary leadership society, at the College of William and Mary.

Health Units Extended.

Extension of local health units to cover nine new localities, effective July 1st, has been announced by Dr. L. J. Roper, State Health Commissioner. These offices will serve the counties of Bedford, Franklin, Greene, Madison, Fluvanna, Louisa, Frederick, Lunenburg, and the city of Winchester. There has been a realignment of medical division supervision to take care of the newcomers, and the following localities will be under these doctors: Dr. E. C. Gates, Amelia, Chesterfield and Powhatan; Dr. S. S. Shouse, Appomattox, Buckingham and Cumberland; Dr. W. P. Jackson, Bedford and Franklin; Dr. W. W. Hargrave, Campbell and Charlotte; Dr. C. C. Kress, Culpeper, Greene, Madison and Orange; Dr. H. M. Snead, Fluvanna, Goochland and Louisa; Dr. J. W. Still, Frederick and the City of Winchester; and Dr. H. E. Jenkins, Lunenburg, Prince Edward and Nottoway.

Dr. Carl S. Lingamfelter,

Recently of Dumbarton, is now at the Columbia-Presbyterian Medical Center, New York City, where he is taking a three year post-graduate course in dermatology.

Dr. Herbert G. Ruffin,

Class of '38, Medical College of Virginia, has located at Dumbarton where he has taken over the practice of Dr. Lingamfelter.

Dr. Richard A. Bagby,

Formerly of Richmond, is now in Tampa, Florida, where he is taking special training in ear, nose and throat in the Municipal Hospital under Dr. J. Brown Farrior. He is a graduate of the Medical College of Virginia, class of 1943.

The American Gynecological Society

Held its annual meeting at Hot Springs, May 9-10. Dr. Joseph Baer, Chicago, was named president, and Dr. Norman F. Miller, Ann Arbor, was re-elected secretary. The 1950 meeting of this Society will be held at the Greenbrier, White Sulphur Springs.

Dr. Eller to Resign.

Dr. C. Howe Eller, Director of Public Health of the City of Richmond, has resigned, effective August 15th, to accept a position as health director for Louisville and Jefferson County, Kentucky. In his new position, he will be chairman of the department of preventive medicine and public health at the University of Louisville Medical School. Dr. Eller has been Director of Public Health in Richmond since 1946.

Virginia Doctors Attend Meeting.

The American Psychiatric Association met in Montreal, Canada, May 23-27, and the following Virginia doctors were registered: Drs. Rex Blankinship, J. E. Barrett, R. Finley Gayle, E. C. Hoff, Benedict Nagler, J. Asa Shield, and I. S. Zfass, all of Richmond; H. C. Davis, Granville Jones, and E. Beamer-Maxwell, Williamsburg; J. B. Pettis, S. C. Runkle, and G. E. Stone, Staunton; J. P. King and T. E. Painter, Radford; Frank A. Strickler, Roanoke; David C. Wilson, Charlottesville; and Frank Redwood, Norfolk.

Dr. Charles H. Dow,

Having recently completed his training at the Gill Memorial Eye, Ear and Throat Hospital, Roa-

noke, is opening his office in Monessen, Pennsylvania. He has also recently been made a diplomate of the American Board of Otolaryngology.

Dr. E. G. Gill,

Roanoke, has recently been appointed as a member of the National Committee for the Study of Relationship of Poliomyelitis and Tonsillectomy. The chairman of this committee is Dr. Daniel S. Cunning of New York and he has appointed one member from each state to serve with him.

Dr. Gill has also been appointed as chairman of the Committee to Study the Effects of Air Pollution Upon the Respiratory Tract and from a Health Hazard Standpoint in General. This is a committee of the American Bronchoscopic Society.

Ex-Interns of St. Elizabeth's.

The annual meetings of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, were resumed on April 26th, with a luncheon at the Commonwealth Club. Dr. John W. Morris, of Morehead City, North Carolina, was elected Chairman for the 1950 meeting, and it was decided to hold the meeting each year on the same day of the J. Shelton Horsley Memorial Lecture at the Richmond Academy of Medicine.

American Board of Public Health and Preventive Medicine.

The following Richmond doctors have been invited to be Founders of the new American Board of Public Health and Preventive Medicine: Dr. C. Howe Eller, Director of City Health Department; Dr. E. M. Holmes, Jr., Assistant Director of City Health Department; and Dr. E. C. Harper, Veterans Administration.

McGuire Veterans Hospital—New Manager.

Dr. Leslie Hurd Wright, a native New Englander, has been named as manager of McGuire Veterans Administration Hospital, Richmond. He succeeds Dr. Edmund M. Ellerson who has transferred to the Alexandria Veterans Administration Hospital in Louisiana. Dr. Wright is a graduate in medicine of the University of Vermont and has recently been with the Wood VA Hospital in Milwaukee.

Dr. Ellerson came to McGuire early in 1946, after serving with the Army for 18 months as executive officer of the eighty-third General Hospital in England.

Married.

Dr. William Hugh Grey, Charlotte, N. C., and Miss Elizabeth Gooch Seay, Richmond, May 14th. He is a graduate of the Medical College of Virginia, class of 1948, and they will make their home in Richmond.

Dr. Glenn Claire Hall, Jr., Pulaski, and Miss Frances Elizabeth Palmer, South Boston, May 21st. He is a graduate in medicine from the University of Virginia in 1948.

Local Committees on Arrangements for Annual Meeting.

Pooling their efforts toward a common goal the Medical Societies of Elizabeth City County and Warwick County have formed a Local Committee on Arrangements for the annual meeting of the Medical Society of Virginia at Old Point Comfort, next October. The membership of the committee represents the entire medical profession of the Lower Peninsula. *Co-chairmen:* Dr. Waverly R. Payne, Newport News and Dr. Paul J. Parker, Hampton; *Entertainment:* Dr. Edward L. Alexander, Newport News, Dr. Frank A. Kearney, II, Phoebus, Dr. William A. Read, Dr. Paul Hogg, Dr. C. E. Holderby, and Dr. George G. Hankins, Newport News; *Registration:* Dr. Barnes Gillespie, Hilton Village and Dr. William A. Mitchell, Newport News; *Halls, Lanterns, Special Meetings:* Dr. Robert H. Wright, Jr., Phoebus, Dr. Nowell D. Nelms, Hampton, and Dr. Chester D. Bradley, Newport News; *Recreation:* Dr. Alfred A. Creecy, Dr. R. A. Davis, and Dr. William O. Poindexter, Newport News; *Scientific Exhibits:* Dr. J. Will Tankard, Hilton Village, and Dr. Thomas N. Hunnicutt, Newport News; *Reception:* Dr. Russell Buxton, Newport News, and Dr. Eldred S. Jones, Hampton; *Woman's Auxiliary:* Mrs. Chester D. Bradley; and *Publicity and Press Relations:* Dr. Chester D. Bradley, Newport News.

Dr. Frank A. Kearney, II is the president of the Elizabeth City County Medical Society which includes the physicians of the Hampton-Phoebus area. It is the older of the two societies since Hampton is a much older community than Newport News. The Warwick County Medical Society includes the physicians of Newport News and Hilton Village.

Its president is Dr. George S. Grier, III of Newport News.

Dr. Hoge and Dr. Williams.

Dr. Randolph H. Hoge, Professor of Gynecology, and Dr. George Zur Williams, Professor of Pathology, Medical College of Virginia, upon invitation of the Medical Society of the State of Oregon, gave a series of lectures on cancer diagnosis and treatment in the State of Oregon, June 6-10. As a part of the extramural and postgraduate courses for the practicing physicians of Oregon, Drs. Hoge and Williams gave nine lectures. The lectures of Dr. Hoge were on the general theme of "Cancer of the Cervix and Other Gynecologic Cancer", and Dr. Williams on "General Cancers for Cancer Diagnosis and Control".

The American Council of Christian Churches,

At its spring convention in Denver, Colorado, April 27-29, unanimously adopted the following resolution against socialized medicine:

"For the State to usurp responsibility for the medical care of its citizens, whatever its name and title, constitutes an infringement of human responsibility and individual freedom which God has not given to the State.

"God created man for His own glory, gave him a body as a fit organ for his soul, and made man responsible to Him, not to the State, in his care of his body. The State has no right to destroy this relationship, and require by law, force, or other method the submission of the body to its paternal care.

"The soul and the body are inseparably connected, parted only by death; and when the State *attempts* such care of the body, it inevitably moves to direct the mind and spirit.

"The depravity of man, as taught in the Bible, so aggravates State control as it relates to government officials, politicians, physicians, and patients as to produce a corrupt, inefficient, expensive, bureaucratic and intolerable system.

"Socialized medicine in any form, represents, we believe, a clear violation of the Fourth Amendment of our Constitution which guarantees "The right of the people to be secure in their persons".

"The battle against State medicine is not for the doctors alone, but it belongs to all Christian people who cherish their own freedom as well as the physician."

Dr. C. B. Hughes

Has recently located in Wytheville, where his practice is limited to pediatrics. He is on the staff of the Chitwood-Moore Clinic. Dr. Hugh B. Brown, Jr., of Pulaski, is also now doing the x-ray work at the Chitwood-Moore Clinic.

Radford Community Hospital—Annual Clinic Day.

The Fourth Annual Clinic Day is being held by the Radford Community Hospital on July 21st. Guest speakers will be Dr. Earl O. Latimer, Assistant Professor of Surgery, Northwestern University, Chicago; and Dr. Samuel J. Fogelson, Associate Professor of Surgery, Northwestern University. Dr. Latimer will speak on Surgery of the Gall Bladder and Biliary Tract and Dr. Fogelson on The Surgical Therapy of Duodenal Ulcer.

There is usually an attendance of 100 to 125 guests at this meeting which consists of a banquet and scientific program.

The American Congress of Physical Medicine

Will hold its twenty-seventh annual scientific and clinical session Sept. 6, 7, 8, 9 and 10, 1949 inclusive, at the Netherland Plaza Hotel, Cincinnati, Ohio. Scientific and clinical sessions will be given on the days of Sept. 6, 7, 8, 9 and 10, 1949. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held Sept. 6, 7, 8 and 9. These courses will be offered in two groups. One set of ten lectures will consist of basic subjects and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapy technicians who are registered with the American Registry of Physical Therapy Technicians. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

The Medical Society of the State of North Carolina

Held its Sesquicentennial Session at Pinehurst, May 9-11, under the presidency of Dr. J. F. Robertson, Wilmington. There were 998 physicians registered. Dr. G. W. Murphy, Asheville, succeeded to the presidency, and Dr. Roscoe D. McMillan, Red Springs, was named president-elect. Dr. Millard Hill, Raleigh, replaced Dr. McMillan as secretary, and Mr. J. T. Barnes was re-elected for a term of three years as executive secretary.

Medical Care Consultant Appointed.

Dr. Arthur Klein, Richmond, has been appointed as consultant in the City Health Department's new program for medical care of indigents. He will be associated with the program on a part-time basis.

U. S. Air Force Medical Service.

Organization of the United States Air Force Medical Service within the Department of the Air Force has been announced by General Hoyt S. Vandenberg, Air Force Chief of Staff. Major General Malcolm C. Grow, surgeon general of the air force, who heads the medical service, will report directly to General Vandenberg.

Highlight of the plan for the service is the provision assuring career opportunities for personnel. Housing for medical officers and their families, stability of assignment and opportunities for medical and scientific advancement are features of the plan.

"Medical specialists are assured of opportunities for advanced training in both clinical medicine and research in aviation medicine. Professional facilities of general hospitals and laboratories, approved civilian institutions and air force facilities will be used to provide regularly spaced training tours for members of the air force medical service."

The plans are designed to correct major objections of professional people to a career in the armed forces. Medical officers will be given every opportunity to pursue their specialties and doctors and dentists who volunteer to serve for more than one year will continue to receive the extra $100 a month. Officers, nurses, and enlisted technicians who qualify and are assigned flying duties will receive additional hazard pay.

Promotions and rank distributions will be administered so that personnel of all categories can begin their careers and advance through successive grades in accordance with their ability and responsibilities held.

The service will be manned by both regular and reserve officers, reserve officers having the prerogative of serving limited periods of active duty. Civilians desiring regular or reserve commissions may apply directly to the surgeon general, U.S. Air Force, Pentagon, Washington. Recognition of prior professional training and previous military service will be given in original appointments.

Doctor Wanted

To take over well equipped, eight room doctor's office, with well established practice in eastern North Carolina town of 3,000 population. Modern hospital 18 miles distant on route 301, south. If interested write Harrison Drug Company, Enfield, North Carolina. (*Adv.*)

For Sale.

Second hand Castle autoclave 18″ x 9″, complete with stand, two gallon water sterilizer and one quart still in perfect working condition. Reason for selling is need of larger autoclave. Communicate with Box 296, Wytheville, Va. (*Adv.*)

Wanted.

Used electrocardiographic recorder. Write "EC", care Virginia Medical Monthly, 1200 East Clay Street, Richmond 19. (*Adv.*)

OBITUARIES

Dr. Frank Harrell Redwood,

Prominent neuro-psychiatrist of Norfolk, died May 27th, at the age of sixty-eight. He had been an active member of the Medical Society of Virginia for thirty-four years and at the time of his death was a member of the Committee on Mental Hygiene.

At a meeting of the Norfolk County Medical Society on May 30th, the following tribute was adopted.

Dr. Frank Harrell Redwood died suddenly of coronary thrombosis on May 27, 1949, in New York City, while returning from a meeting of the American Psychiatric Society in Montreal, Canada.

A native of Nansemond County, Virginia, he had graduated in medicine at the Medical College of Virginia in 1913. Following specialization in psychiatry, he served

in the United States Army Medical Corps in World War I, and upon release from active duty, he began practice in Norfolk. He was a Diplomate of the American Board of Psychiatry and Neurology, and a Fellow of the American College of Physicians. He held membership in the American Psychiatric Society, was an organizer in the Southern Psychiatric Association, and was associated with many other medical groups. He was consultant at the United States Public Health Service Hospital at Norfolk, and had been very active as a member and Secretary of the Virginia State Board of Mental Hygiene and Hospitals. He also was an organizer of the Norfolk Mental Hygiene Clinic. All three Norfolk hospitals were fortunate in holding his interest, and he was president of the medical staffs of two of them at various times. He was also a past president of the Norfolk County Medical Society.

His wife was Miss Grace Gilman, of Richmond, Virginia, who died in June, 1946. He is survived by a brother, a son and daughter, and four grandchildren.

The medical profession and the community have lost a valuable friend and a devoted scientific worker. It is unfortunate that he should be taken at this time, when he was rendering his most valuable service.

It is requested that this humble tribute to our friend and fellow member be written into the minutes of the Norfolk County Medical Society, and that a copy be given the VIRGINIA MEDICAL MONTHLY, and a copy be sent to the family.

C. LYDON HARRELL, *Chairman*
A. BROWNLEY HODGES
WALTER P. ADAMS

Dr. Arthur Hamilton Deekens

Died in a Richmond hospital on May 29th. He had practiced in Richmond for twenty-five years but had recently been living in New Orleans. Dr. Deekens was born in Belfast, Ireland in 1865 and received his medical degree from the University of Pennsylvania in 1889. He practiced in Mexico City and New Orleans after leaving Richmond but had retired about twelve years ago because of bad health. He had been a member of the Medical Society of Virginia for thirty-six years and was made a Life Member at the 1948 meeting. Two brothers, Dr. A. B. K. Deekens of Amelia and Dr. William F. Deekens of Wytheville, survive him.

Dr. George Clegg Williams,

Well known physician of Pearisburg, died on May 29th of injuries sustained in an automobile accident which also took his father's life. He was born in Stuart and was forty-one years of age. Dr. Williams graduated in medicine from the University of Virginia in 1935. He practiced in Richlands before locating in Pearisburg in 1940 where he was plant physician for the Celanese Corporation. Dr. Williams was a vice-president and past secretary of the Southwestern Virginia Medical Society and had been a member of the Medical Society of Virginia for several years. His wife and a son survive him.

Dr. Joseph James Anderson,

Richmond, died May 19th. He was born in Louisa County and was seventy-nine years of age. Dr. Anderson graduated from the Medical College of Virginia in 1893 and had practiced in Richmond for fifty-five years, having retired recently due to ill health. He had been a member of the Medical Society of Virginia for forty-four years and was made a Life Member at the 1948 meeting. His wife survives him.

Dr. George Blight Harrison,

Fredericksburg, died May 17th, following a heart attack. He was sixty-eight years of age and a graduate of the University of Maryland, class of 1905. Dr. Harrison practiced for several years at Colonial Beach before locating in Fredericksburg. He served as Captain in the Army Medical Corps during World War I, and later became associated with Dr. Frank Pratt in founding the Pratt Clinic. He had been a member of the Medical Society of Virginia for thirty-one years and was at one time president of the Northern Neck Medical Society. His wife survives him.

Dr. Ashton Harwood,

Binns Hall, died May 18th, after an illness of several weeks. He was seventy-five years of age and a graduate of the Medical College of Virginia in 1902. Dr. Harwood practiced for twenty-five years in Charles City County, then located in Lynchburg for thirteen years, returning to his former practice in 1932. He was a Mason and a former member of the Medical Society of Virginia. Three sons survive him.

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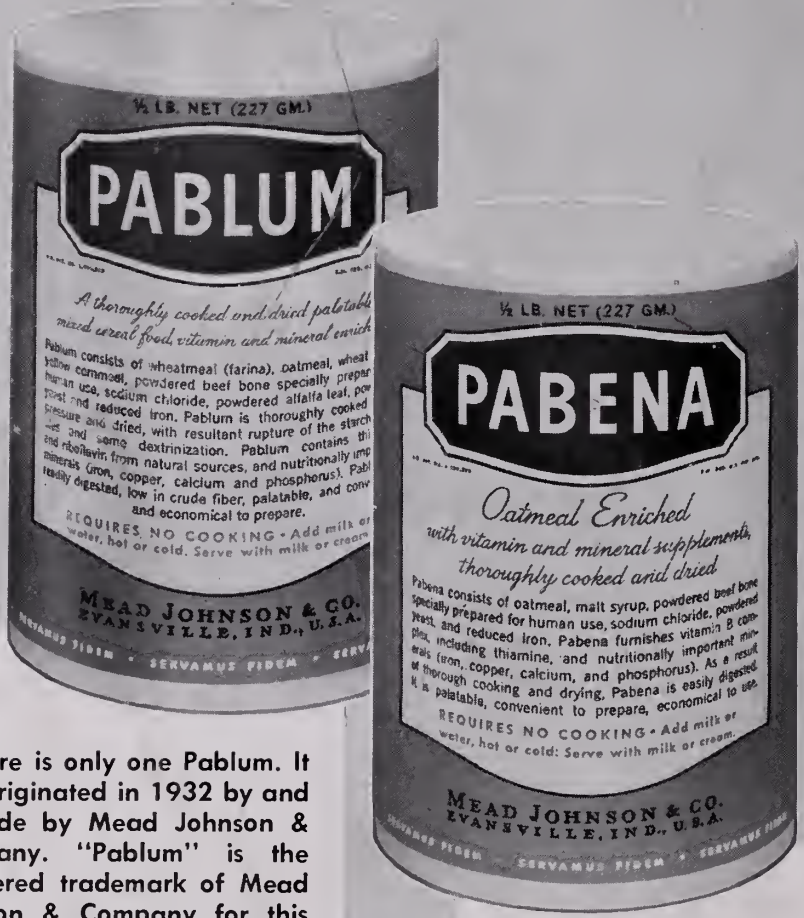
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CONTENTS

Guest Editorial. Ronald B. Almack ---------- 381

James Thacher And His Influence on American Medicine. Henry R. Viets, M.D., Boston, Mass. ---------- 384

The Variable Clinical Manifestations of Sickle Cell Anemia. William H. Higgins, Jr., M.D., and Elam C. Toone, Jr., M.D., Richmond, Va. ---------- 400

The Recognition of Pre-Schizophrenic States. Gordon C. G. Thomas, M.D., and David C. Wilson, M.D., Charlottesville, Va. ---------- 405

Arteriosclerotic Heart Disease in Diabetics. Robert L. Bailey, Jr., M. D., Richmond, Va. ---------- 411

An Analysis of 27 Reported Fatalities Immediately Following the Injection of a Mercurial Diuretic. Thomas E. Stanley, M.D., Martinsburg, W. Va. ---------- 416

Continued on page 6.

WALTER REED
ISSUE

August, 1949

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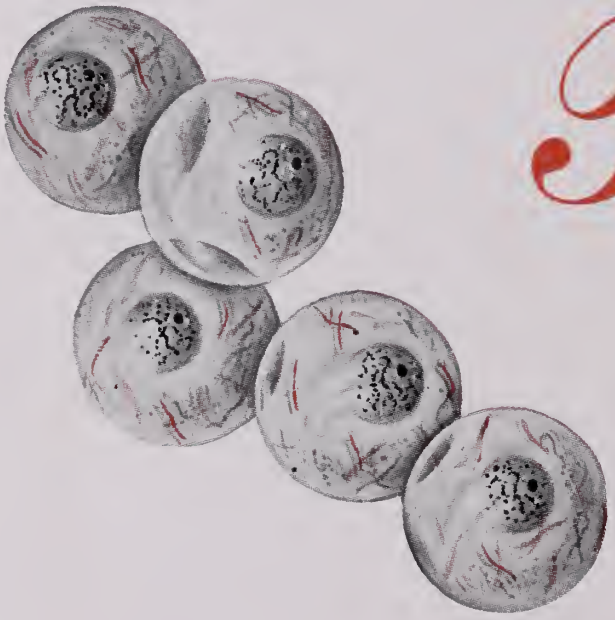

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GUEST EDITORIAL

Planning and Building Hospitals and Public Health Centers in Virginia

THE Virginia hospital planning and construction program is now well under way. Grants from state and federal funds have been approved for seventeen communities and counties. Administered by the State Department of Health under state legislation authorizing Virginia to participate in the benefits of the Hill-Burton Act, the program is designed to assist local areas. Coming at a time when the demand for additional hospital beds and public health centers is most acute, the program has enabled many communities to bring their building and expansion plans into reality.

During the past eight months construction has started on seven hospital projects and one public health center. Front Royal is building the new Warren Memorial Hospital. Abingdon is remodeling and expanding the Johnston Memorial Hospital. The old Mary Washington Hospital in Fredericksburg and the old King's Daughters' Hospital in Staunton are being replaced with new facilities. In Richmond, the sixteenth floor of the Medical College of Virginia hospital is being completed. The Loudoun County Hospital in Leesburg is being remodeled and expanded as is the Rockingham Memorial Hospital in Harrisonburg. A new public health center is being constructed in Amherst to serve Amherst County. The total cost of these eight projects including construction, equipment, architect's fees and other expenditures approximates eight million dollars. Some 450 additional beds will be made available to the areas served by the above hospitals.

It is anticipated that construction on four hospitals and five public health centers will start during the summer months. The new Louise Obici Memorial Hospital will be erected in Suffolk. Pearisburg will have the new Giles Memorial Hospital and Woodstock the new Shenandoah County Memorial Hospital. In Winchester, the Winchester Memorial Hospital will be remodeled and expanded. New public health centers will be constructed in Greensville, Prince William, Nelson and Northampton counties, and in the City of Roanoke. These projects will involve a total expenditure of more than five million dollars. The hospitals will make approximately 300 additional beds available.

The basic aim of the Hill-Burton program is an increase in availability of hospital and public health housing facilities. It is to be expected, however, that the fruits of the program will mean more than a mere increase in the number of physical plants. An expansion of hospital facilities should also mean an increase in medical personnel and services. Adequately designed and equipped public health centers will tend to improve and expand the public health activities of the area served. Thus the goal of more and better hospital and public health housing facilities for more people means better medical care and ultimately a higher level of health.

The strength of the Virginia hospital planning and construction program is based upon local initiative, local control and local responsibility. Aid can be granted only to those areas that take the initiative to qualify for participation in accordance with the

state hospital construction plan. This initiative covers a multitude of activities ranging from the raising of the necessary local funds to the development of by-laws and administrative policies for operation of the proposed facilities. It includes among many things the selection of a site, the selection of an architect, and the formation of an adequate staff, both, professional and non-professional. Back of this initiative are usually many hours of work to achieve the cohesiveness of purpose essential to insure success of the project.

Determination of policy and administrative control as well as ownership of the facility rests in the hands of the local sponsors upon completion of the construction. This principle of local control guarantees that the policies of operation will be in accordance with the local pattern. It provides for complete utilization of local initiative in solving local problems. All hospitals constructed in Virginia under the Hill-Burton program are subject to licensure by the State Department of Health as are all hospitals operating in the Commonwealth.

From local initiative and local control stems local responsibility—a responsibility to maintain and operate the completed facilities at a high level of efficiency. The pressing need for additional hospital beds and public health housing necessitates efficient, economical, and solvent operation at the local level. Upon completion of the project, the economic support must come largely from local sources. This means that the facility must be operated within the economic means of the local area. In addition, the large expenditure of local, state and federal moneys on current projects and the anticipated expenditures of the future demand that local areas realize full value of the money spent in terms of successful operational policies.

The hospital planning and construction program in Virginia is somewhat unique in that the financial aid to local areas is available from state as well as federal funds. Virginia is one of a small number of states in the nation providing state aid for hospital and health center construction under provisions of the Hill-Burton Act. The Commonwealth is one of an even smaller number which grants aid to voluntary nonprofit agencies. Legislation on the Virginia statutes permitting contributions of public funds by towns, cities, or counties for hospital construction is also unique. State aid plus the enlightened hospital legislation has been an important factor in enabling many communities to enjoy participation in the hospital construction program.

To assist in financing the hospital and public health center construction program, Virginia receives annually for the five year period covered by the Hill-Burton Act, approximately $2,000,000 in federal aid. These funds are available to approved projects on a one dollar for two dollars matching basis. The 1948 session of the General Assembly appropriated $1,500,000 unconditionally and $1,000,000 conditionally to supplement the federal funds. In November 1948 Governor William M. Tuck released the $1,000,000 in conditional appropriations, thus making the entire $2,500,000 in state appropriations available. With both the federal and state funds at hand, approved projects have been allocated 52.61 per cent of the construction costs from state and federal monies. To match these grants, it has been necessary for the local areas to provide 47.39 per cent of the costs. All state and federal allotments currently available have been allocated to approved projects.

At the state level the core of the planning and construction program is the state plan as set forth in the publication "Survey of Hospital Facilities in Virginia". In this survey, based upon an extensive study of existing hospital and public health center facilities, made by the State Department of Health in 1947, the over-all hospital and public health center situation was analyzed as to current situations and

potential future needs. The resulting State plan is a suggestion to guide the development and construction of the facilities under the Hill-Burton Act. It is not a mandatory formula, but a flexible and adaptable pattern for improving hospitals and public health centers. It is designed to make the benefits of modern medical knowledge and hospital care more accessible, more efficient and more economical.

Interest on the part of the local areas in the hospital planning and construction program is increasing. This is true throughout the nation as well as in Virginia. The Hill-Burton Act was passed by Congress in 1946 with a life expectancy of five years. Since its inception the quality of attainment has been at such a high level throughout the nation and the need for financial assistance so great that it is now proposed to expand the Hill-Burton program to cover a period of ten years instead of five. Such an expansion would obviously enable many more communities throughout Virginia to provide modern hospital facilities for their residents.

The Virginia hospital planning and construction program is a "grass roots" program. The local community is envisaged as the focal point. At the core of the program is the belief that it is the prerogative and responsibility of the community to plan and develop a hospital or public health center suitable to its own needs within the scope and standards of the state plan. The primary purpose of state and federal financial backing is to supplement and assist local areas with their projects. The quality of service provided by the facilities constructed under the program will be determined by local sponsors, governing boards, and the communities they serve.

RONALD B. ALMACK

EDITOR'S NOTE: Mr. Almack is Director of the Bureau of Hospital Survey and Construction of the State Department of Health, Richmond.

Floral Eponym

TORREYA

TORREY, JOHN. 1798-1873

JOHN TORREY was the son of Capt. William Torrey, a Revolutionary soldier. He graduated in medicine at Columbia in 1818. He was an eminent chemist and mineralogist, but it was in botany that he achieved his greatest fame. He was at various times Professor of Chemistry, geology, mineralogy, natural history and botany at the United States Military Academy, Princeton, and Columbia and assayer in the United States Assay Office. He wrote extensively on botany. Yale College gave him the honorary M.A. degree in 1823 and Amherst an LL.D. in 1845. The students of the College of Physicians and Surgeons remembered him as an excellent teacher. He died at his home in the grounds of Columbia College on March 10, 1873.

The Torreyas are handsome evergreen trees closely kin to the yew. They have drupe-like fruit about an inch long.

JAMES THACHER AND HIS INFLUENCE ON AMERICAN MEDICINE*

HENRY R. VIETS, M.D.,
Librarian, Boston Medical Library,
Boston, Massachusetts.

Three years from now you will have the honor of celebrating the centenary of the birth of Walter Reed for whom this lecture is fittingly named. He is a towering figure in American medicine, an Army officer not dulled by the drab routine but ever to carry the spark of genius, so fully discerned by the far-seeing Welch in those early historic days at the Hopkins. That same spark was to burst forth in brilliant display many years later in the far-off Havana and mark an epoch in the frequently turbulent flow of the advancement of medical knowledge. Son of an obscure man of God, born in humble circumstances in Belroi, Reed became Virginia's most distinguished physician. When opportunity knocked, he, like Oliver Wendell Holmes, had 'the mind prepared,' even as Banting, Minot, Fleming, Florey and Trueta in our day. The door to medical education must be broad not to screen out 'the most distinguished' and Egyptian walls be no barrier to those qualified to enter. The Reeds of medicine are among us today and for them, often indistinguishable in the mass, our efforts must be bent. A Welch may get an inkling of future brightness, as he did with Reed, but most of us must be content with flag at mast and giving our best to those we are privileged to teach.

James Thacher, although he did not reach the heights scaled by Walter Reed, made for his time a notable contribution to medical education as a teacher of many boys in his home, an author of the first American textbook of medicine and an historian who collected for posterity the records of the lives of our medical worthies. In addition, Thacher wrote, according to John Adams, "the most natural, simple, and faithful narration of facts that I have seen in any history of that period [the American Revolutionary War]." Adams was writing in 1824, over forty years after the surrender of Cornwallis at Yorktown but, after reading Thacher's *Military Journal* today, we would not disagree with Adams' opinion.

Besides his *Practice, Military Journal* and *Medical Biography,* Thacher wrote six other books, many of them produced at a time when ill health forced him to relinquish partly his extensive practice and embark upon antiquarian and historical endeavors. Some of these books rest in the oblivion of time, only of interest to the keen-nosed collector of 'peripheral medicine' or to the dusty librarian, worthily holding in her charge every bit of matter surrounding our predecessors so that years later someone like myself will force her to reach into her capacious pocket, dark and gloomy though it be, and bring forth a little known volume, a 'rare item,' a long-lost edition, perhaps only to 'lay a ghost.' Thacher would have approved of your Academy and library, as he did of the Boston Medical Library, a sprawling infant in his day but not unmindful, as you are, of its duty to those who had passed that way before.

A MILITARY JOURNAL

While serving as a surgeon in the American Revolutionary War from 1775 to 1783, James Thacher kept a detailed diary, a day-by-day account, enlivened with intimate biographical sketches of officers in the field. A good picture of the spirit of Washington's Army, especially under the adverse circumstances of hunger, fatigue and cold, the journal also provides detailed descriptions of events almost unequalled by any of his contemporaries. He was a keen observer of the habits of his fellow-soldiers and, for a young country boy untrained in narration, his *Journal* must be considered a remarkable historical document.[1] Unfortunately, Thacher failed to give many details of his hospital experiences, except in regard to a smallpox inoculation, which he carried out on a large scale.

Thacher, a young man of twenty-one, fresh from an apprenticeship with Abner Hersey, the leading physician in Barnstable, Massachusetts, where the young Whig was born, became a surgeon's mate under John Warren in the provincial hospital at Cambridge, Massachusetts, in July, 1775. Warren, the brother of Joseph Warren, killed on June 17 at Bunker Hill, although only a year older than Thacher, was the senior surgeon to the hospital.

*The Walter Reed Lecture delivered before the Richmond Academy of Medicine, February 10, 1948.

Thacher's account of his medical examination is perhaps not without interest even today. "On the appointed day," he wrote, "the medical candidates, sixteen in number, were summoned before the board for examination. This business occupied about four hours; the subjects were anatomy, physiology, surgery and medicine. It was not long after, that I was happily relieved from suspense, by receiving the sanction and acceptance of the board, with some acceptable instructions relative to the faithful discharge of duty, and the humane treatment of those soldiers who may have the misfortune to require my assistance. Six of our number were privately rejected as being found unqualified. The examination was in a considerable degree close and severe, which occasioned not a little agitation in our ranks. But it was on another occasion, as I am told, that a candidate under examination was agitated into a state of perspiration, and being required to describe the mode of treatment in rheumatism, among other remedies he would promote a sweat, and being asked how he would effect this with his patient, after some hesitation he replied, 'I would have him examined by a medical committee'."[2]

Within a few days he got his first glimpse of George Washington and wrote, "It was not difficult to distinguish him from all others; his personal appearance is truly noble and majestic, being tall and well proportioned. His dress is a blue coat with buff colored facings, a rich epaulette on each shoulder, buff under dress, and an elegant small sword; a black cockade in his hat."

Fig. 1—James Thacher and Susannah Hayward about the time of their marriage in 1785.
(From pastel portraits in the possession of Thacher's great-granddaughter, Miss Mary Russell Hodge of Plymouth.)

Thacher was soon busy, however, tending to the wounded from Bunker Hill but not too busy to note that "paper bills now circulate instead of species," or the arrival of troops from Pennsylvania and Maryland, "remarkable for the accuracy of their aim." In October he described the quick trial and conviction of Benjamin Church, the Surgeon General, for traitorous correspondence with the enemy in Boston. By November the hospitals were crowded with sick soldiers from camp—"autumnal fevers and dysenteric complaints, which have proved fatal in a considerable number of instances."

By January, 1776, the Army was reduced to a very critical situation, being obliged to substitute new troops and militia in place of those who had been in service five or six months, and this exchange was made within musket shot of the enemy's lines. During part of this period Thacher wrote, "our numbers were not sufficient to man the lines, nor was there powder enough in camp to furnish four rounds a man." The troops captured some cannon from the army in Boston but these were old and many of them unserviceable; and Thacher felt that, "had the enemy been acquainted with our situation, the consequences might have been exceedingly distressing." In February, 1776, John Morgan of Philadelphia was appointed Director General of the hospitals, replacing Church. After Morgan arrived in Cambridge a new and systematic arrangement of the medical departments took place. Thacher was subjected to another examination by Morgan and received from him the appointment of physician's mate to David Townsend in the regiment commanded by Colonel Asa Whitcomb stationed in the barracks on Prospect Hill. Young Thacher was glad to exchange his hospital job for that of a regimental surgeon, particularly under the command of such an outstanding figure as Whitcomb, with his friend Townsend, a survivor of Bunker Hill and a former pupil of Joseph Warren, as the regimental surgeon. The regiment was soon ordered to march to Roxbury, where they occupied the house formerly belonging to Governor Shirley, and all the troops were alerted for a general attack on the heights at Dorchester which occurred in March of 1776. Thacher describes the assault in some detail and noted that Washington was present, "animating and encouraging the soldiers and they, in return, manifested their joy." On March a flag of truce came out from Boston acquainting Washington that General Howe had come to the determination to evacuate the town, and the fleet with the evacuating troops sailed on March 17. The larger part of the army under Washington was then ordered to New York, but those that remained, including Thacher, entered Boston on the 20th. Thacher wrote, "while marching through the streets, the inhabitants appeared at their doors and windows; though they manifested a lively joy on being liberated from a long imprisonment, they were not altogether free from a melancholy gloom which ten tedious months' seige had spread over their countenances. The streets and buildings presented a scene, which reflects disgrace on their late occupants, exhibiting a deplorable desolation and wretchedness." Townsend, the regimental surgeon, found his parents and sister in Boston, and young Thacher took up his abode in their house. He mentions the Old South Church and notes that the inside was entirely destroyed by the British, "the sacred building occupied as a riding school for Burgoyne's regiment of dragoons." The North Church had been entirely demolished and consumed for fuel.

Always a physician, Thacher was delighted to record that one of his soldiers found in Boston a human skeleton in complete preparation, left by a British surgeon, "which I received as an acceptable present." On July 3 orders were given for an inoculation for the smallpox of all soldiers and inhabitants of the town, as a general infection of this disease was apprehended. Townsend and young Thacher were constantly engaged in this work. By August 5 his entire regiment, consisting of 500 men, had gone through the smallpox by inoculation, and all except one Negro recovered. This, of course, was direct inoculation with smallpox matter before the discovery of vaccination with cow-pox by Jenner, the same method that had proved so valuable in the hands of Zabdiel Boylston in 1721 in Boston.

After the inoculations were finished the regiment prepared to march from Boston to Ticonderoga and, on August 7, they marched out of town with colors displayed and drums beating. Thacher was somewhat indisposed and he was permitted to remain in town to take charge of the sick soldiers until he recovered his health. This he did on August 20, when he said good-bye to the town of Boston, where he had resided very pleasantly for five months. "I am destined," he wrote, "to a distant part of our country, and know not what sufferings and hazards I shall be called to encounter while in the discharge of my military duties."

He commenced his journey in company with another officer and fourteen men. His route led through Worcester, Springfield, and over the Green Mountains to Skeensbury,[3] the place of rendezvous for the Continental troops and militia destined for Ticonderoga. Here they embarked upon a boat to cross Lake Champlain.

Soon after arriving in Ticonderoga one of the soldiers was bitten in the hand by a rattlesnake.

Thacher describes the incident and the treatment that was used. In a half-hour the whole arm and shoulder was swollen to twice its normal size and the skin had become a deep orange color. Soon half the body became swollen in a similar manner and nausea had set in. The man's condition was critical. Thacher and two other physicians procured a quantity of olive oil and requested the patient to swallow it in large and repeated doses until he had swallowed a quart. At the same time there was rubbed into the affected limb a large quantity of mercurial ointment. In about two hours the patient began to recover, and in forty-eight hours he was well.

Thacher describes in considerable detail the formation and character of the army. Calculating that services of an army would be required for a short period of time only, most of the troops in the field in the summer of 1776 were minutemen, volunteers, and militia, and it was a considerable time before they were regularly organized into regiments and brigades. In many instances the soldiers were indulged the privilege of choosing their own officers, and these officers too frequently proved unqualified to discharge their military duties. Because of the short terms of service there was a continual fluctuation of men from camp to farms. There was also trouble in connection with the troops from the southern states being incorporated and associated in military duty with those from New England. Many of the officers from the South were gentlemen of education and unaccustomed to that equality which prevailed in New England and, as Thacher justly remarks that, "however desirable it could scarcely be expected that people from distant colonies, differing in manners and prejudices, could at once harmonize in free intercourse. Hence we too frequently hear the burlesque epithet of Yankee from one party, and Buckskin, by way of retort, from the other."

To encourage enlistments each soldier was to receive a bounty of $20 and 100 acres of land if he served during the war. The monthly pay ranged from $75 for a full colonel to $6.67 for a private. Each commissioned officer was allowed the privilege of taking a soldier from the ranks for a waiter, and he was exempt from camp and other duties except in time of action.

The autumn of 1776 passed pleasantly enough in Ticonderoga. Thacher learned of Bushnell's experiments with the torpedo, although he did not actually witness its use. News of a serious character, however, soon came to the fort when, on October 15, it was learned that the fleet of vessels on Lake Champlain had been destroyed and that the British Army was established at Crown Point, a prominent peninsula on the western shores of the Lake, a few miles to the north of Fort Ticonderoga. It was expected that the British would attempt to capture the fort at Ticonderoga but, much to everyone's apparent surprise, when a small force of troops reconnoitered Crown Point about November 1, they found that the British had retired to Canada for the winter. The rest of the year was a fairly pleasant one, and certainly Thacher and his regiment were much better off than was General Washington and the Continental Army in New Jersey. No action, except for the raids of the hostile Indians, took place in Ticonderoga until after April in 1777. The Indian raids, however, were persistent and often severe, and many of the wounded were brought back to be under Thacher's care.

On April 1, 1777, Colonel Whitcomb, who was the commanding officer of Thacher's regiment, left the service, his term having expired. At this time Thacher applied to Jonathan Potts, the director general of his department, for transfer from the status of a regimental surgeon to that of a surgeon's mate in the general hospital. He was accepted, and his friend, David Townsend, was appointed senior surgeon at the same time. In the general hospital at Ticonderoga they found eighty soldiers with various diseases and eight or ten men who had been cruelly wounded by savages, some of them scalped.

Thacher seems to have had plenty of time on his hands for diversions. He speaks of exploring the country, and he went across Lake Champlain to Mount Independence, directly opposite Ticonderoga. A strong fort had been established on the summit of the mountain, and communications between the two places was maintained by a floating bridge and protected by a boom which was supposed to confine the British fleet north of this point. Thacher, who sometimes took a romantic view of life, describes the scene from the top of Mount Independence in some detail:

"From this commanding eminence we had one of the most singularly romantic views which imagination can paint. Northward we behold Lake Champlain, a prodigious expanse of unruffled water, widening and straighten-

ing as the banks and clifts project into its channel. This lake extends about one hundred miles toward Quebec, and is from one to five miles wide. On each side is a thick uninhabited wilderness, variegated by hills and dales; here the majestic oak, chestnut and pine, rear their lofty heads; there the diminutive shrub forms a thicket for the retreat of wild beasts. Looking southwest from our stand we have a view of part of Lake George, emptying its waters into Lake Champlain, near Ticonderoga. Turning to the east, the prodigious heights called Green Mountains, ascending almost to the clouds, are exhibited to view, with the settlements in that tract of territory called New Hampshire grant. The ancient fortress at Crown Point is about twelve miles north of this place; it is by nature a very strong position, but it has been abandoned by both armies."

Suddenly this quiet and romantic existence was interrupted. On the night of July 5, 1777, Thacher was rudely awakened with the astounding news that both Ticonderoga and Mount Independence had to be evacuated at once. He could scarcely believe the information, but immediately began to collect the sick and wounded and as much of the hospital stores as possible. The men and equipment were embarked on boats at the shore at three o'clock in the morning of July 6 and commenced the voyage down the South bay of Lake Champlain to their original rendezvous at Skeenesborough, a distance of about thirty miles. The little fleet was heavily ladened with cannon, tents, provisions, invalids, and women, but Thacher was not averse to remarking on the beauty of the voyage and the pleasant scenery. He wrote, "The night was moon light and pleasant, the sun burst forth in the morning with uncommon lustre, the day was fine, the water's surface serene and unruffled. The shore on each side exhibited a variegated view of huge rocks, caverns, and clifts, and the whole was bounded by a thick, impenetrable wilderness. My pen would fail in the attempt to describe a scene so enchantingly sublime. The occasion was peculiarly interesting, and we could but look back with regret, and forward with apprehension. We availed ourselves, however, of the means of enlivening our spirits. The drum and fife afforded us a favorite music; among the hospital stores we found many dozen of choice wine, and we cheered our hearts with the nectareous contents."

The little gay band evacuating Ticonderoga felt reasonably safe, but they were far from being secure. Burgoyne was at their heels, and in less than two hours after landing the enemy attacked them from the sea, having broken through the bridge and the boom at Ticonderoga, thought to be impenetrable. Shortly the British troops and Indians landed and rapidly advanced on the party. Nearly all stores and equipment were abandoned and the troops hastened southward, marching all night, with the Indians right behind them, to Fort Ann, about eight miles to the south, where they arrived at five o'clock on the morning of the 7th. They received a small reinforcement from Fort Edward, ten miles further to the south of them, and finally were able to repel the British after a capture of some of their prisoners. A British surgeon who was captured returned to Thacher some of his books and papers which had been taken out of his chest at Skeenesborough two days before.

Fort Ann being of no particular importance, the party marched to Fort Edward on the Hudson, two miles south of Hudson Falls. There they met the main army from Ticonderoga and Mount Independence who had marched south through lower New Hampshire. On the 25th of July young Thacher set up his tents and cared for the sick and wounded, but within a few days was ordered to move them by boat down the Hudson to Albany, a distance of a little over fifty miles. This took him three days, with his forty patients.

Albany was a town of about three hundred houses. The hospital, which had been erected during the French war, was situated above the town in a two-story building containing about forty wards capable of accommodating five hundred patients.

The army, in the meantime, had also evacuated Fort Edward and now established itself at Stillwater, nor far from Saratoga, where an important battle was shortly to be fought in the middle of September. By the 21st of the month Thacher's hospital was receiving the officers and soldiers wounded in the battle of Saratoga. Several, he states, had received very formidable and serious wounds and had to be subjected to capital operations.

In October one of his patients was General Arnold, whose leg had been badly fractured by a musket ball. Thacher noted that Arnold was "very peevish and impatient under his misfortunes and requires all my attention during the night, but I devoted an hour in writing a letter to a friend in Boston detailing the particulars of the late battle."

Burgoyne, in the meantime, had been captured,

with a number of ladies of high rank, and on the 21st of October arrived in Albany and was put up in the hospitable mansion of General Schuyler. The same kind of treatment was extended to the officers of lesser rank and even to the soldiers who were wounded and captured on the field of battle. On the 24th of October Thacher noted that the hospital was now crowded with patients. Hessians were given exactly the same accommodations as the Continental troops and received equal care and attention. In many cases, however, the foreign troops were under the care of their own surgeons. Thacher thought that the English surgeons performed with skill and dexterity but the Germans, with few exceptions, were no credit to their profession. Many of them seemed destitute of all sympathy and tenderness towards the patients under their care. The hospital was not only crowded, but over five hundred patients were cared for in the Dutch Church and in private homes, in addition to an equal number in the hospital. There were thirty surgeons and surgeon's mates on duty, and all were constantly employed.

Thacher devoted all his time from eight o'clock in the morning to late in the evening caring for his patients. He speaks of amputations, the trepanning of fractured skulls, and other formidable types of surgery and gives a vivid description of the patients and their sufferings such as only could be given by a thoughtful, considerate surgeon who had the best interests of his men at heart. Some details of the operations are given showing that Thacher was a bold and courageous surgeon as well as an acute observer, sorting out the strong from the weak, the courageous from the cowards.

In February of 1778 many of the wounded committed to his care in October of the previous year had recovered, and Jonathan Potts, the director general, presented young Thacher with a generous and handsome present, consisting of a furlough of forty days, to visit his home and friends in New England. He rode on horseback first to Boston and then to Barnstable, Cape Cod, where he was born. He tells us little about the journey itself except that he returned to duty in Albany two days before the expiration of his furlough, a conscientious young man indeed.

In the meantime, General Washington was having his worst winter at Valley Forge, and it was not until Spring that matters began to improve in the Continental Army. Thacher gives a striking account, which he received from a friend, of the conditions at Valley Forge.

The Spring wore away without activity but on June 1, 1778, the hospital was moved from Albany to High Lands on the Hudson opposite what is now known as West Point. Patients, hospital stores, and baggage were moved by boat, a pleasant voyage down the Hudson. The hospital was quickly established in the house of Colonel Beverly Robinson, a Loyalist from New York who had used this mansion as his summer residence. Again, as things were quiet, Thacher had some time to explore the country. He climbed Sugar Loaf Mountain and various other high points near it and otherwise enjoyed himself. He visited other hospitals in the neighborhood such as the one at Fishkill, where he found some of his old friends, Adams and Eustis, from Boston. He seems to have made himself at ease with all the general officers in the camp and was formally introduced to Kosciuszko from Poland, who had recently arrived in the country and was employed in the engineering department with the rank of Colonel. In company with Gouverneur Morris and William Brown, the physician-general, he rode into the camp at White Plains. While waiting on Colonel Scammell, the adjutant general, Thacher requested a change from the office of hospital surgeon to that of a regimental surgeon, similar to the one he had occupied in the past when at Ticonderoga. Apparently he was anxious for more active service, having had little to do since his furlough the first of the year. Brown, however, prevailed upon him not to dissolve his connections at that time with the general hospital.

Thacher then went on a further trip, to Bradford and then on to Danbury, Connecticut. The trip was made by horseback and apparently it was a pleasant diversion. He returned on August 7 and found that many new cases had come in to the hospital, mostly of putrid fever and dysentery.

In September Thacher reported the arrival of Major General Israel Putnam with a division of troops from Maryland and one from Virginia. This is his first contact with soldiers from the South, but it became an intimate one, as Brigadier Generals Woodford and Muhlenburg took up their quarters in the hospital, along with General Putnam. Putnam, he noted, was "corpulent and clumsy, but carries a bold, undaunted front. He exhibits little of

the refinements of the well-educated gentleman, but much of the character of the veteran soldier."

Washington paid an unexpected visit to the hospital in October, and Thacher had the pleasure of showing him through the different wards. Washington showed great interest in the sick and wounded, and in general gave approbation to the way the hospital was conducted. Thacher's account of the personal appearance of Washington is one of the best on record and is worth quoting in detail. "The personal appearance of our Commander in Chief is that of the perfect gentleman and accomplished warrior. He is remarkably tall, full six feet, erect and well proportioned. The strength and proportion of his joints and muscles appear to be commensurate with the preeminent powers of his mind. The serenity of his countenance, and majestic gracefulness of his deportment, impart a strong impression of that dignity and grandeur which are his peculiar characteristics, and no one can stand in his presence without feeling the ascendancy of his mind, and associating with his countenance the idea of wisdom, philanthropy, magnanimity, and patriotism. There is a fine symmetry in the features of his face, indicative of a benign and dignified spirit. His nose is strait, and his eyes inclined to blue. He wears his hair in a becoming cue, and from his forehead it is turned back and powdered in a manner which adds to the military air of his appearance. He displays a native gravity, but devoid of all appearance of ostentation. His uniform dress is a blue coat, with two brilliant epaulettes, buff colored under clothes, and a three cornered hat, with a black cockade. He is constantly equipped with an elegant small sword, boots and spurs, in readiness to mount his noble charger. There is not in the present age, perhaps, another man so eminently qualified to discharge the arduous duties of the exalted station he is called to sustain, amidst difficulties which to others would appear insurmountable, nor could any man have more at command the veneration and regard of the officers and soldiers of our army, even after defeat and misfortune. This is the illustrious chief, whom a kind Providence has decreed as the instrument to conduct our country to peace and to Independence."

There was a good deal of entertainment by General Muhlenburg and others when Malachai Treat, the physician general, visited the hospital. Muhlenburg gave a dinner for forty-one officers, the tables being "furnished with fourteen different dishes, arranged in a fashionable style." General Putnam presided; many toasts were pronounced, accompanied by humorous and merry songs, and in the evening there was military music and dancing, which continued to a late hour in the night. General Muhlenburg, who had previously been a minister of a parish in Virginia, "participated in the spirit of the times, exchanging his clerical profession for that of a soldier." He had raised his own regiment of soldiers, and he was appointed their commander.

Thacher was greatly impressed by the boys from Virginia, and on the tenth of November, 1778, asked to be transferred to their regiment as a surgeon. This was accomplished, and he took up his quarters with Colonel George Gibson and the other officers. It is a little surprising that this relatively uneducated Cape Cod boy, puritanical in mind, should have been accepted as a surgeon by the fun-loving Virginia regiment. He must have had something in his character that appealed to the men from the Southern state, although he does not always seem to have been happy in their relaxed discipline and habits which, he thought, "almost approached dissipation." The officers from Virginia and Maryland adopted a practice of giving suppers alternately, with music and dancing through half the night, which caused Thacher to remark that "they do not accord precisely with many own views of time well spent, although I am frequently enticed to a participation in their banqueting revels."

Apparently Thacher had a capacity for making friends easily, for he speaks of dining with Captain Carter at West Point, visiting friends in Fishkill, and even waiting on the Marquis de la Fayette. He was received by the Marquis in a polite and affable manner. La Fayette had just recovered from a fever and was in his chair convalescing. Then only twenty-one years of age, he was described by Thacher as "not very elegant in his form, his shoulders being broad and high, nor is there a perfect symmetry in his features, his forehead is remarkably high, his nose large and long, eyebrows broad and projecting over a fine animated hazel eye. His countenance is interesting and impressive. He converses in broken English, and displays the manner and address of an accomplished gentleman." Thacher says that he was highly hon-

ored by this interview; his keen eye and power of description amply justify the meeting as recorded in his diary for November 27, 1778.

The Virginia regiment gave some gay parties over Christmas and New Years. After a long dinner and dancing, the officers gathered in General Muhlenburg's quarters at the hospital, where an elegant supper was provided. Not one of the company was permitted to retire until three o'clock in the morning. A number of ladies were present. "Thus," comments Thacher, "have the gallant Virginians commenced the new year."

The winter of 1779 was a mild one in Albany, although some of the soldiers suffered from exposure while living in canvas tents. By April the weather had become very pleasant, and young Thacher bought a handsome bay horse for six hundred dollars. This amount indicated the depreciation value of paper money, which he had received for pay; for the horse, he reports, could not be valued at much more than eighty dollars in silver. In the Spring the Virginia regiment and others were paraded before Baron Steuben, a marked disciplinarian with a scrutinizing eye. He took into his hands the muskets and accoutrements of each soldier, examining them with particular accuracy and precision. From Thacher, the surgeon, he required a list of the sick, with a particular statement of their accommodations and modes of treatment, and even visited some of the sick in their cabins. Steuben at the time was inspector-general with the rank of major general in the Army.

As summer approached, Thacher rode around the country on his horse, visiting various military installations and, apparently, always welcomed by the officer in charge. On the twentieth of June he was in West Point, and there he received a letter from his old friend, David Townsend, who had become surgeon to the military hospital at Providence, Rhode Island. He invited Thacher to accept the position of surgeon to the Massachusetts regiment under Colonel Henry Jackson, which was then in Providence. Thacher's chief reason for considering this new appointment appears to have been that the officers in the Massachusetts regiment received compensation in clothing and other articles which he could not claim while serving with the Virginia regiment. He felt that it was proper, moreover, that officers should serve in the line of their own state, and though he had enjoyed the most friendly intercourse and numerous kind favors from the Virginians, he "preferred the manners and habits of the New Englanders." He therefore decided to join the Massachusetts regiment and left West Point on the second of July, arriving in Providence on the ninth. On the way his horse was seized with distemper, and he was forced to dispose of the animal. The journey took him through Litchfield, Farmington, Hartford, and across the Connecticut River to East Hartford. There he found the whole country in a state of alarm, as the enemy had landed in New Haven. He then passed through Windham and finally reached his old friend Townsend. Colonel Henry Jackson accepted him at once as a surgeon to the regiment, and he commenced his duties the day he arrived.

In August, 1779, the British had established a post on the Penobscot River in Maine, having approached there from Halifax. An expedition was planned to overcome this force, as the invasion of Maine had excited great indignation among the people. Colonel Jackson's regiment was added to the force, and they marched to Boston. The regiment consisted of four hundred men, completely uniformed and well-disciplined, and not inferior, according to Thacher, to any in the Continental Army. They completed the forced march from Providence to Boston, a distance of forty miles, in twenty-four hours. They were treated with great respect, and a dinner was given at the Bunch of Grapes tavern for the officers before they departed in transports. Even after the troops were on board, the officers returned to the Bunch of Grapes, where a liberal and elegant entertainment was provided. They sailed on a brig carrying eight guns, but had a convoy of the *Renown* of fourteen guns and put into Portsmouth Harbor, encamping at Kittery. In the meantime, General Lovell, in charge of the Penobscot expedition, had been forced to retire, for the British had been augmented by a large fleet which had arrived from New York. The Penobscot expedition ended disgracefully, with the troops scattered and their vessels abandoned. Thacher's regiment, which had not taken part, returned to Cambridge, where they encamped on the Common and then marched into Boston.

In September the regiment returned to Providence and almost immediately made ready to march into New Jersey. They crossed the Hudson at King's Ferry, and in December they camped at

Morristown. There was great suffering that year, for many of the troops were ill provided with clothing and shelter. In addition to the miserable canvas tents, the troops were greatly affected by a scarcity of provisions. The weather, too, was much worse than that of the year before. Thacher describes in great detail the sufferings of the soldiers. When enlistments ran out, men were only too glad to leave the Army and return home, and there was great difficulty in recruiting new men for the service.

With the coming of the Spring there arrived in camp the usual Congressional Committees for the purpose of investigating the circumstances and condition of the Army. Thacher was asked to present complaints and grievances to them, acting, apparently, as a natural leader. Conditions became somewhat better with the reappearance of Baron Steuben and the return of La Fayette from France, so that by June four battalions of troops could be paraded before the committee from Washington, in the presence of General Washington, and make a respectable showing. By July Thacher found the troops in excellent shape as far as their health was concerned, but there were many perplexing incidents of a disposition occasioned by absence from home, which he called "nostalgia." This was particularly so in the recruits from New England, who became dull and melancholy with loss of appetite, restless nights, and great weakness.

Great excitement was caused by the discovery of the treachery of General Arnold and the capture of Major John André of the British Army. Regiments were immediately sent to West Point, and there Thacher witnessed the execution of André in October, which he described in detail. He remained in West Point during the fall of 1780 and in January, 1781, he found himself in winter quarters with his brigade about two miles from West Point itself, a situation which he found singularly romantic, on a highly elevated spot surrounded by mountains and craggy rocks just above the banks of the Hudson, a position which afforded a splendid view of the country for many miles in all directions. There was no longer any reason to complain of his accommodations, for the huts were warm and comfortable. Wood was in abundance at the door, and there was a tolerable supply of provisions. His only real complaint at that time was the little value to the paper money which the troops received for their services.

After the turn of the year Thacher remained in Highlands and took part in a good many local skirmishes and had a few wounded to care for. At one time he went down the Hudson to Crompond, an advanced base twenty miles below West Point, and there took charge of a number of wounded. This advanced position was almost within the British lines, and he tells stories of the raiding that went on by irresponsible people taking advantage of the disturbed sector between the British and the Continental forces. The marauders took the name of "cowboys" and "skinners" and apparently carried out the most atrocious deeds in an effort to terrorize the people. Some of the soldiers, as the result of these skirmishes, were so severely wounded that his friend Eustis was also called in to aid him. A side-light on the practice of medicine in 1781 is given in the history of a soldier who had received a dangerous wound through the shoulder and lungs, so that air escaped from the wound at every breath. He and Eustis dilated the wound and then Eustis decided that, as the patient had not sustained a copious loss of blood, repeated blood-letting was necessary. In spite of this drastic treatment the patient recovered. Eustis was a firm believer in blood-letting, and even when he became sick himself with a minor illness he requested Thacher to bleed him as the principal means of treatment.

By April Thacher had returned to Highlands, where he again inoculated all the troops against small pox. He reports that he had only four deaths out of five hundred men inoculated. Later in the month Thacher went by horseback to New Windsor to pay his respects to John Cochran, the new director general of hospitals, who had succeeded Shippen.

In June the troops began a march, crossing the Hudson and establishing themselves at Tarrytown. There Rochambeau met them, and the troops were reviewed in his presence by Washington. Thacher, with his usual facilities of making friends, soon became acquainted with the French officers, and they invited him to an elaborate dinner, which he describes in detail. On the seventeenth of July a new corps of light infantry, selected from several New England regiments, was formed under the command of Colonel Alexander Scammell. This was a picked group of men and officers who were to serve in advance of the main army and be con-

stantly prepared for active and hazardous service. Much to Thacher's pleasure he was asked to become the surgeon to Scammell's corps, thus indicating the high respect that the officers of the line had for this young doctor. He accepted at once and with Scammell's light infantry, in the autumn of 1781, he marched to Trenton and then to Philadelphia on the way to Yorktown. The main body of the army left Annapolis by boat, sailed down Chesapeake Bay into Hampton Roads and landed on September 22, about twelve miles from Yorktown. Within a week they had moved up to within a mile of the town. On the way he passed through Williamsburg and saw the public buildings and the college. Although the buildings were splendid the water, from the doctor's viewpoint, was "extremely brackish and disagreeable." Then Colonel Scammell was surprised and captured, but his corps continued in action. Violent battles, under the general command of Washington, with Steuben, La Fayette and Rochambeau as aides, were fought in October in the field. Thacher, too, had to fight against weakness and fever, which had attacked many of the troops from New England. He then witnessed the surrender of Lord Cornwallis and gave a detailed account of the celebrated event. Being a mounted officer he was able to move around and see almost everything that was happening, and he took advantage of this in describing what actually took place on the field.

The troops then returned to West Point, where they encamped again at Highlands and spent the winter. Thacher seems to have kept himself in excellent health, for he could only report in December, 1781, that he had a mild attack of inflammatory rheumatism but otherwise had no illness during the seven years of military service. In the Spring of 1782 he was busy again with smallpox inoculations, and by April 5 he had completed this aspect of his work. He then took a furlough, with his friend Eustis, back to his home in Barnstable. In the latter part of May he returned to the camp on the Hudson and there, except for a few trips around the country and one expedition to Philadelphia, he remained until he was mustered out of the service on January 1, 1783, and his diary ends at this point, with the following words:

"This day I close my military career, and quit forever the toils and vicissitudes incident to the storms of war. To my military companions I bid a final adieu, and hope to enjoy in future the blessings which attend a virtuous course of domestic life. I retire with honorable testimonials, from very respectable authority, of my punctuality and faithful performance of duty in the various situations which I have been called to occupy, and with a heart fraught with grateful recollections of the kindness and affectionate intercourse which I have experienced from my superiors, and from my numerous companions and associates. While I congratulate my country on the momentous event by which we are about to be elevated to the rank of an Independent Nation, most cordially do I proffer my sympathy for the many lives of inestimable value which have been sacrificed during this ever memorable contest."

The Post-War Period

Home from the War in the summer of 1783, Thacher, then twenty-nine years of age, began to think of settling down to his practice, interrupted since the summer of 1775 when the young patriot of twenty-one hurried to Cambridge to join Washington's army lest the War end before he could become a surgeon's mate. Eight years and more was to pass before he could establish himself as a practitioner. The winter of 1783-1784 seems to have been a period of "terminal leave," filled in, no doubt, by a pleasant interlude of courting Susannah Hayward of Bridgewater, a town twenty-five miles to the northwest of Plymouth, whom he was to marry in 1785. One hopes, too, that he paid his respects to Abner Hersey, his eccentric teacher, still in practice in Barnstable. Hersey was to die a few years later at the age of sixty-five, an old man for his day, long worn out by his hard rounds, no doubt made none easier when his young, efficient apprentice left him after five years of training in the fateful July of 1775.

At all events, it was not until March, 1784, that Thacher, well qualified for his time by his good training and extensive war experience, left Barnstable and began his long period of practice in Plymouth. He was to remain for sixty years in the town he loved so well, forty of them as the leading physician of the county and the last twenty, when health partially failed, as a biographer, an antiquarian, farmer, horticulturist, and historian. From 1810 to 1835, nine books were written by Thacher, published in sixteen editions before his death in

1844, at the age of ninety. One book, the *Military Journal*, was reprinted, with change of title, at least seven times after his death. This was a prodigious output for a country doctor with a large practice. Much was made possible by his semi-retirement at the age of seventy on account of deafness in 1824, but his most important book, the *Military Journal*, was off the press in 1823, when Thacher was also not far from his period of greatest usefulness as a physician and surgeon.

Securely settled in 1784, Thacher married in April of the next year. Of his six children, only two survived him at his death. As his practice grew, young men came to him to learn the art of medicine.[4] They lived in his house as apprentices, but he was more than a master for he taught them medicine in a manner as good as and perhaps even superior to the regular instruction then available in qualified medical schools. Few local boys could afford to leave home for courses offered under John Warren and Benjamin Waterhouse in 1782 at the University at Cambridge, and even fewer could journey to Philadelphia to hear William Shippen and John Morgan, who had begun to teach in 1764. Thacher built his own "school" into his private practice, obtained his dissecting material from a neighboring church-yard, and assembled his own library of English authors, then the only texts available. He soon visualized the importance of books by American physicians and he was among the first in America to write books for the use of his students. In this endeavor he was most successful.

The Medical Writings of James Thacher

The first years, from 1784 to 1804, were devoted almost entirely to building up a practice, for Thacher did not join the Massachusetts Medical Society until 1803, presumably too busy to take the long journey to Boston for the annual meeting. But he soon profited greatly by his membership, for the Society issued its *Pharmacopœia* in 1808, a book that completely changed the language of materia medica in this country. Thacher was quick to grasp the importance of the scholarly and safe contribution of John C. Warren and James Jackson, and he hastened to incorporate the essence of the Massachusetts Medical Society *Pharmacopœia* into his first publication, *The American New Dispensatory* (1810). The book, a standard work written in familiar language in concentrated form, was immediately successful, and three additional editions were printed in the following eleven years. The current literature was fully scanned, augmented by the extensive correspondence Thacher must have carried on with physicians in other parts of the country.

Thacher soon discovered that there was no systematic treatise on practical medicine available to his American students other than the standard English textbooks of his times. For years he collected data, particularly on diseases most frequently encountered by him in practice. His *American Modern Practice*, first issued in 1817, placed before the students and practitioners of the country a comprehensive, practical book. His chapters on the "Duties of a Physician" is one of outstanding value in arrangement and full of sound advice. "To excel in the profession of medicine," wrote Thacher, "and to practice with success and reputation, requires indefatiguability, industry, and a vast variety of liberal accomplishments, as well as an understanding improved by knowledge and experience." Surely no one better exemplified than Thacher "indefatiguable industry," "liberal accomplishments," and "understanding improved by knowledge and experience."

A second edition, in 1826, expanded and finely printed, brought the subject up to date and the book was established as the outstanding contribution in its field. Not the least important was the introductory "Historical Sketch of Medical Sciences, and the Sources and Means of Medical Instruction in the United States," assembling all the material related to medical instruction in America up to the time of publication of each of the two editions. This chapter was not only useful at the time but it preserved for medical historians in future times a wealth of factual data and a complete review of medical education as practiced in the early years of the nineteenth century in this country.

In chronological order, between *The American New Dispensatory* (1810) and *American Modern Practice* (1817) came the slightest of Thacher's works, *Observations on Hydrophobia*, issued in Plymouth in 1812. Two patients dying of this disease were seen by Thacher in 1810 and they form the starting point for the book. Their symptoms are well described. The book reflects, moreover, his wide reading, for its condenses most of

the pertinent literature of his day in a series of letters to a friend, leaving, as he writes, "no accessible sources uninvestigated." From the extensive quotations one must conclude that few members of the Massachusetts Medical Society used the library of that organization, established in 1782, more than this country practitioner in Plymouth, although he no doubt had many books in his personal library for the use of his students. Thacher's *Observations on Hydrophobia* serves to illustrate his method of writing. First comes an example of the disease in his practice, then he scans and abstracts all the literature he can find, and finally he puts this material in orderly arrangement and writes a practical book on the subject. In the case of hydrophobia he also suggested more stringent laws to restrain animals already affected.

Horticulture

Coming from farming stock, Thacher never lost his interest in agricultural pursuits. To improve the country and encourage the farmer he wrote a short treatise on apple and other fruit trees, *The American Orchardist,* published in 1822. As on other subjects he read the literature thoroughly, adopting whatever he found in European publications for American needs. He devoted many of his leisure hours to horticulture, and much of the book reflects his own experiences, a form of recreation that to Thacher was a necessity, "Nothing can be more irksome to a reflecting mind," he wrote in the dedication to the officers of the Massachusetts Agricultural Society, "than a state of inactivity and idleness." Although *The American Orchardist* is largely a compilation of the opinions of others, the material is well arranged and the book is a practical guide for the culture and management of fruit trees.

Another publication deals in a similar manner with the care of bees. In this book, *A Practical Treatise on the Management of Bees,* (1829), Thacher gives many examples of his own observations, as well as those of his neighbors.

Bibliography and History

Thacher's name is best known to medical historians through his *American Medical Biography,* a book published in two volumes in 1828. Of particular value is the preface on the "History of Medicine in America," eighty-five pages of closely woven facts and the basis for all subsequent writings on the subject. The biographies are a tribute to Thacher's erudition, a worthy product of his well-disciplined mind and productive antiquarianism.

Towards the end of his life Thacher wrote a brief history of the Salem witchcraft episode, *An Essay on Demonology, Ghosts, and Apparitions* (1831) and a *History of the Town of Plymouth* (1832). The latter passed into a second edition in 1835. Both are written in Thacher's best style, careful compilations of considerable value. To the history of Plymouth he added an important chapter on "The Aborigines or Indian Natives of New England."

Summary

I have dealt largely with Thacher's *Military History* for it is his least known and, to me, his most important writing. The diary reflects his own observations and serves to illuminate the man as well as the times in which he lived. His experiences were not extraordinary, but what he saw he recorded and often commented upon. He, untrained and with a limited education, was a good reporter and his diary can be read with pleasure and profit as well in 1949 as it was in early years of the nineteenth century and throughout the years just prior to the War Between the States. Indeed, the book was so popular from 1854 to 1862 that seven editions were called for. Some printings were so read and used up that only single copies are now found to signify its wide popularity.

After the Revolution Thacher became a physician of more than ordinary distinction, a pioneer in medical education, a writer of note, a practitioner of sterling quality, and a molder of medical thought whose influence has grown with the years, as befits a medical worthy whose name should not be forgotten.[5]

The Principal Writings of James Thacher

(1) The American new dispensatory. Containing general principles of pharmaceutic chemistry. Pharmaceutic operations. Chemical analysis of the articles of materia medica. Materia medica, including several new and valuable articles, the production of the United States. Preparations and compositions. With an appendix, containing medical prescriptions. The nature and medical uses of the gases. Medical electricity. Galvanism. An abridgement of Dr. Currie's reports on the use of water. The cultivation of the poppy plant, and the method of

preparing opium. And several useful tables. The whole compiled from the most approved authors, both European and American. 4°. pp. 529.

Boston: Printed and Published by T. B. Wait and Co., 1810.

Notes: Dedicated *To John Warren, M.D.,* Plymouth, January 1, 1810. The *Preface* is dated, Plymouth, January 1, 1810. The Report of a Committee of the Massachusetts Medical Society, consisting of John Warren, Aaron Dexter and Josiah Bartlett, is published as a *Recommendation,* dated Boston, October 14, 1809.

Thacher adopted as a basis for his work the "Pharmacopoeia of Massachusetts," issued by the Massachusetts Medical Society in 1808.

The text ends on p. 389; *Appendix* (pp. 391-457); *Tables* (pp. 459-493); *English and Latin Indexes* (pp. 495-529).

Copyright: May 10, 1810 (Mass.), by Thomas B. Wait and Company.

Copies: MBM, etc.

(1a) ——————— 2 ed. 4°. pp. xxvii, [25]-732.

Boston: Published by Thomas B. Wait and Co., and C. Williams. T. B. Wait and Co., Printers, [1813].

Notes: There is a slight change in the title page. The *Preface to the Second Edition* is dated Plymouth, January 1, 1813. The text is considerably modified and the book is re-set. The text ends on p. 564; *Appendix* (pp. 565-651); *Tables* and *Glossary* (pp. 652-694); *English and Latin Indexes* (pp. 695-732).

Copyright: April 30, 1813 (Mass.) by Thomas B. Wait and Co.

Copies: MBM, etc.

(1b) ——————— 3 ed. 4°. pp. 724.

Boston: Printed and Published by Thomas B. Wait and Sons, 1817.

Notes: The *Preface to the Third Edition* is dated, Plymouth, November 1, 1817. There are changes in the text and the book is re-set.

The text ends on p. 576; *Appendix* (pp. 577-659); *Tables* (pp. 660-690); *English and Latin Index* (pp. 691-724).

Copyright: October 30, 1817 (Mass.), by Thomas B. Wait and Sons.

Copies: MBM, etc.

(1c) ——————— 4 ed. 4°. pp. 736.

Boston: Published by Thomas B. Wait. Joseph W. Ingraham, Printer, 1821.

Notes: The *Preface to the Fourth Edition* is dated, Plymouth, Mass., June 1, 1821. The author notes that parts of the book were printed, without acknowledgment, in another work. The text is changed and the book re-set. *Recommendations* from David Hosack, Lyman Spalding, Wright Post, Valentine Mott and others appear in the preliminary leaves.

The text ends on p. 605; *Appendix* (pp. 606-688); *Tables* (pp. 689-718); *English and Latin Indexes* (pp. 719-736).

Copyright: October 9, 1821 (Mass.), by Thomas B. Wait.

Copies: MBM, etc.

(2) Observations on hydrophobia, produced by the bite of a mad dog, or other rabid animal. With an examination of the various theories and methods of cure, existing at the present day; and an inquiry into the merit of specific remedies. Also, a method of treatment best adapted to the brute creation. In a series of letters addressed to a friend. 4°. pp. (xii), (13)-(302). 1. pl.

Plymouth (Mass.): Published by Joseph Avery, 1812.

Notes: J. Belcher, Printer, Boston. The *Advertisement* is dated, Plymouth, January 1, 1812. The *plate,* showing a species of skull-cap, hand colored, follows p. 214. It is well produced on heavy paper. Some copies are bound in blue boards, uncut. The name of the friend to whom the letters are addressed is not disclosed. *Errata* (p. xii); *Postscript* (p. 302).

Copyright: March 25, 1812 (Mass.), by Joseph Avery.

Copies: MBM, etc.

(3) American modern practice; or, a simple method of prevention and cure of diseases, according to the latest improvements and discoveries, comprising a practical system adapted to the use of medical practitioners of the United States. To which is added an appendix, containing an account of many domestic remedies recently introduced into practice, and some approved formulae applicable to the diseases of our climate. 4°. pp. (2), iv, (3)-744.

Boston: Published by Ezra Read. C. Norris and Co., Printers, 1817.

Notes: The *Preface* is dated, Plymouth, Mass., January 1st, 1817. Introducing the text is an *Historical Sketch of Medical Science, and the Sources and Means of Medical Instruction in the United States.* (pp. 3-66).

The text begins on p. 67 and ends on p. 666; *Appendix* (pp. 667-731); *Errata* (p. 732); *Index* (pp. 733-744).

Copyright: December 30, 1816 (Mass.), by Ezra Read.

Copies: MBM, etc.

(3a) ——————— A new ed., improved. 4°. pp. viii, 976.

Boston: Published by Cottons & Barnard. John Cotton, Printer, 1826.

Notes: The book is dedicated to David Hosack, M.D., Plymouth, May 10, 1826. The text is revised and re-set. Some copies are bound in boards, uncut, with paper or leather label on the back-strip.

The *Historical Sketch* is brought up to date to include the first few months of 1826 and late changes are added on p. 785.

The text ends on p. 748; *Appendix* (pp. 749-785); *Errata* (p. 786); *Index* (pp. 787-796).

Copyright: September 16, 1826 (Mass.), by Cottons and Barnard.

Copies: MBM, etc.

(4) The American orchardist; or a practical treatise on the culture and management of apple and other fruit trees, with observations on the diseases to which they are liable, and their remedies. To which is added the most approved method of manufacturing and preserving cider. Compiled from the latest and most approved authorities, and adapted to the use of American farmers. 4°. pp. [viii], [9]-226.

Boston: Printed and Published by Joseph W. Ingraham, 1822.

Notes: The book is dedicated *To the President and other officers of the Massachusetts Agricultural Society,* Plymouth, July, 1821. *Recommendation* by Aaron Dexter, M.D., and others. *Errata* (p. viii). *Index* (pp. 219-226). Boards; paper label.

Copyright: January 3, 1822 (Mass.), by Joseph W. Ingraham.

Copies: MBM, etc.

(4a) The American orchardist; or, A practical treatise on the culture and management of apple and other fruit trees, with observations on the diseases to which they are liable, and their remedies. To which is added the most approved method of manufacturing and preserving cider, and also wines from apple juice and currants. Adapted to the use of American farmers, and all lovers and cultivators of fine fruit. 2 ed., improved much. 4°. p. 236.

Plymouth, Mass.: Published by Ezra Collier, 1825.

Notes: The title is slightly changed in the second edition and the book is revised, re-set and printed by Allen Danforth in Plymouth. There is a new *Preface,* dated, Plymouth, October, 1825. *Index* (pp. 229-236).

Copyright: October 24, 1825 (Mass.), by Ezra Collier.

Copies: MBM, etc.

(5) A military journal during the American Revolutionary War, from 1775 to 1783, describing interesting events and transactions of this period, with numerous historical facts and anecdotes, from the original manuscript. To which is added an appendix, containing biographical sketches of several general officers. 4°. pp. viii, [9]-603.

Boston: Published by Richardson and Lord. J. H. A. Frost, printer, 1823.

Notes: The *Dedication* is to John Brooks, Governor of Massachusetts, dated, Plymouth, January 1st, 1823. The *Military Journal* (pp. 9-390) covers the period January, 1775 through December, 1782. Consideration of the events of 1783 is given in the *Revolutionary Annals* (pp. 391-434). The *Appendix* contains notes (pp. 435-484) and Biographical Sketches (pp. 485-593). *Contents* (pp. 595-603). No index.

Copyright: May 17, 1823 (Mass.), by Richardson and Lord.

Copies: MBM, etc.

(5a) ———————— 2 ed., revised and corrected. 4°. pp. viii, 11-487, 1 (advt.).

Boston: Published by Cottons & Barnard. John Cotton, printer, 1827.

Notes: The text is revised and re-set. The preliminary leaves contain a letter from John Adams, dated Quincy, 11th September, 1824, in praise of the book. *Military Journal* (pp. 11-316); *Revolutionary Annals* (pp. 317-345); *Appendix* (pp. 347-477); *Contents* (pp. 479-487); No index. The advertisement of Cottons and Barnard is on the last leaf. Some copies are in boards, uncut, with paper label on the back-strip. Some copies have attached label on title-page—London: R. J. Kennett, 59 Great Queen Street.

The best edition, corrected by the author and issued under his direction.

Copyright: March 10, 1827 (Mass.), by Cottons and Barnard.

Copies: MB, etc.

(5b) *Military Journal,* during the American Revolutionary War, from 1775 to 1783; describing the events and transactions of this period, with numerous historical facts and anecdotes. To which is added, an appendix, containing biographical sketches of several general officers. 8°. pp. 494, [5] (advt.) pls., ports.

Hartford: Silas Andrus & Son. 1854.

Notes: A cheap reprint of the 1823 edition, with poor plates and portraits. Foundry of Silas Andrus & Son, Hartford. W. C. Armstrong, Typographer. Steam press of W. S. Williams. The note on the foundry and steam press is inverted on the back of the titlepage. Single line around titlepage and text. *Military Journal* (pp. 7-326); *Revolutionary Annals* (pp. 327-356); *Appendix* (pp. 357-486); *Contents* (pp. 487-494). No index.

Bound in law leather. The backstrip is lettered: *American Revolution. Thacher.*

Copyright: None.

Copies: MBM, etc.

(5c) Military journal of the American Revolution, from the commencement to the disbanding of the American Army; comprising a detailed account of the principal events and battles of the Revolution, with their exact dates, and a biographical sketch of the most prominent generals. To which is added the life of Washington, his Farewell Address, the Declaration of Independence and the Constitution of the United States. 8°. pp. xiv, [7]-618. 8 colored pls., 24 ports., frontispiece and 4 engraved pls.

Hartford, Conn.: Published by subscription only by Hurlbut, Williams & Company, American Subscription Publishing House, 1862.

Notes: An expanded edition, re-set and printed by Williams, Wiley and Turner. R. H. Hobbs, stereotyper. The text of the 1823 edition is used. The plates are superior to those in the 1854 edition. *Preface* (pp. v-vi); *Contents* (pp. vii-xiv); *Military Journal* (pp. 7-326); *Revolutionary Annals* (pp. 327-356); *Appendix* (pp. 357-486); *Washington* (pp. 487-515); *Fare-*

well Address (pp. 516-526); *Declaration* (pp. 527-609); *Constitution* (pp. 610-618). No index.

Bound in purple cloth, with elaborate gold stamp. The backstrip is lettered: *Thacher's American Revolution,* without dates.

Copyright: 1861 (Conn.), by Hurlbut, Williams & Co.

Copies: MBM, etc.

(5d) The American revolution, from the commencement to the disbanding of the American army; given in the form of a daily journal, with the exact dates of all the important events; also, a biographical sketch of all the most prominent generals. Published by subscription only. 8°. pp. xiv, 7-486. 7 colored pls., 24 ports.

Cincinnati: Published by Mack R. Barnitz, No. 40, West Fourth Street, [1856].

Notes: A reprinting of the text of the 1823 edition. The text-plates of the Hartford, 1854, edition are used, with added signature numbers and with a double line around text and titlepage. The Foundry and Press are not indicated. The *Dedication* and *Introduction* of the 1823 edition are omitted and a new *Preface* substituted. The *Contents* is retained and precedes the text. The portraits and hand-colored plates differ from the preceding editions.

Bound in green cloth, with elaborate gold stamp. The backstrip is lettered: *Thacher's American Revolution from 1775 to 1783.*

Copyright: 1856 (Ohio), by Mack R. Barnitz.

Copies: DLC (only copy found).

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New York: American Subscription Publishing House, 1860.

Notes: A re-issue of the [1856] edition, with dated titlepage and engraved frontispiece. R. H. Hobb, Stereotyper. Williams and Wiley, printers.

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(5h) ——————— 8°. pp. xiv, 7-486. 8 colored pls., 24 ports., frontispiece.

Hartford, Conn.: Hurlbut, Kellogg, & Co., American Subscription Publishing House, 1861.

Notes: A re-issue of the [1856] edition, with dated titlepage and engraved frontispiece. R. H. Hobbs, stereotyper. Williams and Wiley, printers. A new colored plate is added to the 7 found in previous editions.

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Copies: Ct, DLC, ICHi, MWA, MWHi, N, NNC, OC, OClWHi, PP.

(6) American medical biography: memoirs of eminent physicians who have flourished in America. To which is prefixed a succinct history of medical science in the United States, from the first settlement of the country. 2 vols. in 1. 4°. pp. 436; 280. ports.

Boston: Richardson & Lord and Cottons & Barnard, 1828.

Notes: The book is dedicated to Edward Augustus Holyoke, M.D., dated Plymouth, Mass., January 1, 1828. The *Preface* carries the same date. The *History of Medicine* (pp. 9-85) is an expanded version of the *Historical Sketch of Medical Science,* first published in "American modern practice," 1817 and enlarged in the second edition of 1826. This account contains further revisions. The book is well printed and the lithographed portraits excellent. Copies in boards, uncut, with paper label on the backstrip are known.

Copyright: February 13, 1828 (Mass.) by Richardson & Lord and Cottons & Barnard.

Copies: MBM, etc.

(7) A practical treatise on the management of bees; and the establishment of apiaries, with the best method of destroying and preventing the depredations of the bee moth. 6°. pp. 162 [4].

Boston: Marsh & Capen. Press of Dow and Niles, 1829.

Notes: The *Advertisement* is dated, Plymouth, November 1828. The *Appendix* (pp. 127-149) is taken from an article by Mrs. Mary Griffith, of New Brunswick, N. J.; *Postscript* (pp. 150-152); *Analytical Index* (pp. 153-162); *Contents* (p. 163); *Errata* (p. 164). The advertisement of Marsh & Capen is on pp. 165-166; Thacher's "American Orchardist" is offered for $1.00.

Copyright: December 30, 1828 (Mass.), by Marsh & Capen.

Copies: MBM, etc.

(8) An essay on demonology, ghosts and apparitions, and popular superstitions. Also, an account of the witchcraft delusion at Salem, in 1692. 6°. pp. vi, 234.

Boston: Carter and Hendee, MDCCCXXXI.

Notes: Printed by Boston Classic Press. I. R. Butts. The *Advertisement* (pp. iii-iv) is dated, Plymouth, Nov. 1831. *Salem witchcraft* (pp. 113-204); *Medical Quackery* (pp. 225-234). Binding: red buckram; paper label.

Copyright: 1831 (Mass.), by Carter and Hendee.

Copies: MBM, etc.

(9) History of the town of Plymouth; from its first settlement in 1620, to the year 1832. 6°. p. 382. pl., map. Boston: Marsh, Capen & Lyon, 1932.

Notes: Waitt and Dow's Press. The *Preface* is dated Plymouth, July 4, 1832. *Frontispiece,* New Church; *Index* (pp. v-xi); *Errata* (p. xii). The text begins on p. 13. Bound in purple cloth.

As noted in the *Preface* to the second edition (1835), the whole of this edition, consisting of 1250 copies, was disposed of within a few months after publication.

Copyright: 1832 (Mass.), by Marsh, Capen, and Lyon.

Copies: MH, etc.

(9a) History of the town of Plymouth, from its first settlement in 1620, to the present time: with a concise history of the aborigines of New England, and their wars with the English, &c. 2 ed., enlarged and corrected. 6°. pp. 401. fold. map. Boston: Marsh, Capen & Lyon, 1835.

Notes: The book is revised and re-set. The *Preface* is dated, Plymouth, Sept. 1st, 1835. *The aborigines or Indian natives of New England* occurs on pp. 353-401. The *Contents* (pp. [v]-15) serve as an index. In this edition the map is redrawn and improved. The frontispiece is omitted.

Copyright: 1835 (Mass.), by Marsh, Capen & Lyon.

Copies: MBM, etc.

ABBREVIATIONS FOR LIBRARIES

Ct.	Connecticut State Library, Hartford.
CtY-M.	Yale University, New Haven. Medical School.
DLC.	Library of Congress.
ICN.	Newberry Library, Chicago.
ICHi.	Chicago Historical Society.
M.	Massachusetts State Library, Boston.
MB.	Boston Public Library.
MBM.	Boston Medical Library.
MH.	Harvard University, Cambridge.
MWA.	American Antiquarian Society, Worcester.
MWHi.	Worcester Historical Society.
MiU.	University of Michigan, Ann Arbor.
N.	New York State Library, Albany.
NN.	New York Public Library.
NNC.	Columbia University, New York.
NNN.	New York Academy of Medicine.
OC.	Cincinnati Public Library.
OClWHi.	Western Reserve Historical Society, Cleveland.
PP.	Free Library, Philadelphia.
RPB.	Brown University, Providence.

ORDER OF THACHER PUBLICATIONS

1. The American new dispensatory.	Boston,	1810.
1.a. ——— 2 ed.	Boston,	[1813].
1.b. ——— 3 ed.	Boston,	1817.
1.c. ——— 4 ed.	Boston,	1821.
2. Observations on hydrophobia.	Plymouth,	1812.
3. American modern practice.	Boston,	1817.
3.a. ——— 2 ed.	Boston,	1826.
4. The American Orchardist.	Boston,	1822.
4.a. ——— new ed.	Plymouth,	1825.
5. A military journal.	Boston,	1823.
5.a. ——— 2 ed.	Boston,	1827.
5.b. Military journal.	Hartford,	1854.
5.c. ———	Hartford,	1862.
5.d. The American revolution.	Cincinnati,	[1856].
5.e. ———	Cincinnati,	[1857].
5.f. ———	Cincinnati,	1859.
5.g. ———	New York,	1860.
5.h. ———	Hartford,	1861.
6. American medical biography. 2 vols.	Boston,	1828.
7. A Practical Treatise on . . . bees.	Boston,	1829.
8. An essay on demonology.	Boston,	1831.
9. History of the town of Plymouth.	Boston,	1832.
9.a. ——— 2 ed.	Boston,	1835.

REFERENCES

1. The manuscript of the original diary has not, so far as known, been preserved. First published in 1823, forty years after the close of the War in 1783, the text may have been rewritten and considerably modified by the author in the intervening years. The diary, however, has the freshness of an original document in spite of its late publication. The second, and best edition, revised by Thacher, was issued in 1827. There were many subsequent editions based on the text of the first, 1823, printing. Thacher was a mature man, sixty-nine years of age, when the *Journal* was first published.

2. All references refer to the second edition of *A Military Surgeon,* Boston, 1827.

3. The spelling of Skeensbury has been left as Thacher wrote it. He later referred to the place of rendezvous as Skeenesborough. It is now known as Whitehall, a name adopted in 1786.

4. Noted in a biography of Thacher, in manuscript, by his daughter, Betsy Hayward Thacher (1786-1871), now in the Boston Medical Library. She wrote: "Being so well qualified as an instructor in medicine my Father has educated more young gentlemen in the medical profession than all the other physicians in the old colony. They are scattered through the United States and many of them are ornaments to the profession."

5. There is no full-length biography of Thacher. The most extensive sketch of his life will be found in the *Dictionary of American Biography* (1936). Many letters, as yet unedited, are in the Boston Medical Library.

6. In the catalogue of the F. S. Hoffman Sale, held on March 19, 1877, in New York, an edition of the *American Revolution,* New York, 1857, was offered as item #4701. No such edition has been located or any other reference to it, except in Sabin (95148), where the Hoffman copy is noted, without further assignment. This might be the "third edition of which I find is to be published by the Harpers of New York, revised by his grandson, Mr. James F. Hodge" of New York. (S. W. Williams *American Medical Biography.* Greenfield, Mass. 1845. p. 567).

THE VARIABLE CLINICAL MANIFESTATIONS OF SICKLE CELL ANEMIA*

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and
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The frequency with which the correct diagnosis of many diseases is made usually parallels the physician's experience with the particular condition or his index of suspicion toward such an illness. Sickle cell anemia, because of its protean manifestations and its ability to simulate other diseases, is too often overlooked and not diagnosed due chiefly to the fact that the physician has not thought of it. It is the purpose of this paper to stress some of the unusual clinical features of sickle cell anemia and at the same time to emphasize its ability to simulate closely the clinical picture of many unrelated diseases.

The case records of ninety-two (92) patients with sickle cell anemia observed in the hospitals of the Medical College of Virginia have been reviewed. These cases have been studied with special regard to their presenting complaints, initial diagnoses and physical findings which simulated other pathologic states.

Since few cases of sickle cell anemia present themselves for treatment or observation while in the inactive stage, it is during the crisis of the disease that most patients are seen. It is this feature of sickle cell anemia that causes its bizarre and confusing clinical manifestations.

During the period of crisis most cases have in common a temperature elevation, anemia and leucocytosis. Beyond this common ground, however, the symptoms and findings vary as widely as seems possible for a single pathologic state, and still be considered a disease entity. They may simulate diseases of all of the body systems and in the patients reported here the following group of symptoms appeared. Forty-seven (47) patients had symptoms referable to the skeletal system. Forty-two (42) had symptoms or findings pointing to the cardiovascular system, while thirty-five (35) cases simulated some disturbance of the gastro-intestinal tract. Jaundice was present in twenty-one (21) patients and nineteen (19) had genito-urinary symptoms. Eighteen (18) patients were thought to have rheumatic fever either in the past or at the time of hospitalization. Central nervous system symptoms occurred in eighteen (18), systemic infections in fourteen (14), and respiratory symptoms in twelve (12). Eight (8) patients had an abnormal obstetrical history.

With such a wide variety of presenting symptoms and findings it is natural that a great number of extraneous diagnoses be made before the true state of affairs is recognized. In the ninety-two (92) patients studied in this group the following diagnoses appeared as the original impression or were considered as reasonable possibilities at some time during the period of observation. (Chart 1.)

CHART 1.
The Various Diagnoses Made Initially on 92 Patients Entering the Hospital in Sickle Cell Crises.

Respiratory System	*Cardiovascular System*
Pneumonia	Rheumatic Heart Disease
Tuberculosis	Rheumatic Pancarditis
Miliary Tuberculosis	Congenital Heart Disease
Whooping Cough	Bacterial Endocarditis
	Thrombophlebitis
Hemopoetic System	*Central Nervous System*
Leukemia	Brain Tumor
Infectious Mononucleosis	Meningitis
Hodgkin's Disease	Encephalitis
Congenital Hemolytic Anemia	Poliomyelitis
	Epilepsy
Banti's Disease	Hypopituitarism
Amyloidosis	Central Nervous System Syphilis
Skeletal System	*Systemic Infections*
Rheumatic Fever	Typhoid Fever
Rheumatoid Arthritis	Tularemia
Acute and Chronic Osteomyelitis	Typhus Fever
	Influenza
Syphilitic Periostitis	Syphilis
Scurvy	Undulant Fever
Abdominal and Gastro-intestinal System	
Acute Appendicitis	Catarrhal Jaundice
Perforated Viscus	Acute Hepatitis
Intestinal Obstruction	Acute Gastroenteritis
Pyosalpinx	Intestinal Parasites
Acute Cholecystitis	Bacillary Dysentery
Cholelithiasis	Ovarian Tumor

*Read at the annual meeting of the Medical Society of Virginia, in Richmond, October 18-20, 1948.

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Past History: Most of the patients examined in this series gave a fairly characteristic history. They had been underweight, undersized and in poor health from birth. Their illnesses usually consisted of repeated episodes of muscle and joint pains, abdominal cramps, bouts of fever, leg ulcers and often their parents had noted jaundice. The muscle and joint pains associated with fever frequently led to a diagnosis of rheumatic fever and it was not uncommon to find patients who had been confined to bed for months at a time because of this mistaken diagnosis. Miscarriages occurred often in the women patients and in this series eight of the eleven who had been pregnant had been unable to complete their period of gestation. One of these patients had had five abortions.

Unfortunately, all patients were not questioned closely about precipitating causes of their crisis. Twenty (20) did associate upper respiratory infections with the onset of acute symptoms, three (3) felt that exposure to cold damp weather brought on an exacerbation of their illness and one (1) patient definitely related her attacks to the onset of her menstrual periods.

General Physical Examination: All patients in this series were young negroes, underweight, undersized and often appearing poorly nourished. The temperature was uniformly elevated when seen in a crisis, usually varying from 100-101° F., but often reaching a height of 103-104° F. The skin and mucous membranes were pale and at times the sclerae had an icteric tinge. Many patients presented the peculiar physical features of longstanding sickle cell disease with short trunks, long extremities and long tapering fingers.

Cardiovascular Manifestations: The heart is one of the most interesting features of the sickle cell anemia patient and until recently had not received sufficient attention. In the past the heart in sickle cell anemia had too often been incorrectly classified as a rheumatic heart. In truth, the two conditions rarely, if ever, exist together and only three such cases have been reported.

In fifty-four (54) of the patients in this group the heart was enlarged. Apical systolic murmurs were present in 63% of the cases, while murmurs over other areas of the heart were less common. The past history of fever, muscle and joint pain and the findings of an enlarged heart with persisting apical murmurs frequently encountered in these patients necessarily suggests the diagnosis of organic heart disease in many patients with sickle cell anemia. Thirty-nine (39%) per cent of this group were at one time diagnosed as rheumatic heart disease and three (3%) per cent as congenital heart disease. No case under our observation was found to have either type of heart disease at autopsy. Four (4) cases were in congestive failure.

Another vascular finding in sickle anemia of interest are the changes in the retinal vessels. These consist of marked tortuosity of the retinal veins without associated changes in the arteries or optic disc.

Abdominal and Gastro-Intestinal Manifestations: Thirty-five (35) of the cases entered the hospital complaining of abdominal pain or with symptoms suggesting some lesion of the gastro-intestinal tract. These symptoms in part consisted of nausea, vomiting, and severe cramping pains often generalized, but frequently localized to one of the abdominal quadrants. Diarrhea was present in some instances and occasionally generalized abdominal distention occurred. On examination generalized or local tenderness might be present and frequently muscular spasm or rigidity of the abdominal wall was a definite finding. An enlarged liver was found in thirty-seven (37) cases and the spleen was enlarged in twenty (20).

The most disturbing feature of the abdominal and gastro-intestinal symptoms was the fact that the pain, tenderness and rigidity associated with the temperature elevation and leucocytosis very frequently led to the suspicion of a surgical abdomen. Six cases were thought to have an acute appendicitis, one an acute intestinal obstruction and one a ruptured viscus. Incidentally, two patients were found on x-ray examination to have gall stones, a finding in common with other types of hemolytic anemias.

Skeletal Manifestations: Muscle, joint and extremity pain is a very common complaint and was the outstanding symptom in forty-seven (47) patients. Occasionally actual swelling of the joint with increased heat may be present or may have actually occurred in the past. On close questioning, however, it is usually found that the pain has been more general over the muscles and long bones rather than being localized to the joint areas.

Because of the frequently repeated attacks of extremity pain associated with a temperature eleva-

tion and leucocytosis, rheumatic fever was considered as the most likely diagnosis in eighteen (18) patients and many of these had been treated for this condition over a period of months or years before entering the hospital. Of especial importance in differentiating sickle cell anemia crisis from rheumatic fever is the fact that the sedimentation rate in sickle cell anemia is usually not increased. Ten (10) of the patients were thought to have rheumatoid arthritis, one (1) was diagnosed as luetic periostitis and one (1) was believed to have scurvy because of the appearance of severe malnutrition associated with the skeletal pain. Thirteen (13) cases had open leg ulcers at the time of admission and many others showed evidence of having had old healed lesions.

Twelve (12) cases had osteomyelitis of either an acute or chronic nature, which appeared to be a surprisingly high incidence and apparently had not been previously emphasized as a feature of the disease.

Respiratory Manifestations: Nine (9) patients were found to have bronchopneumonia and two (2) were suspected of having pulmonary tuberculosis. Three (3) patients entered the hospital because of uncontrollable nose bleed.

Central Nervous System Manifestations: Five (5) patients had signs of an acute meningitis, four (4) had had convulsions, three (3) were ataxic and three (3) were stuporous or comatose. One (1) patient, even after repeated examinations, was suspected of having a brain tumor.

Genito-Urinary Manifestations: An interesting complaint in fifteen (15) patients was that of polyuria and in six (6) of these there was an associated polydypsia. Four (4) cases in the total group entered the hospital because of persistent and painful priapism.

Laboratory and Special Studies: The diagnosis in sickle anemia crisis, though suspected from the history and physical examination of the patient, is made only on the basis of special studies of the blood. A moderately thick smear of peripheral blood is made on a cover slip; this is then mounted face down on a slide and then rimmed with vaseline. A few abnormal changes in the red cells may be noted within a few minutes, but the striking changes usually take from two to six hours to develop and on occasion twenty-four hours is required before adequate sickling takes place. Incubating the slide or placing it in a CO_2 chamber may hasten the process. The process of sickling first begins with a thickening of one side of the red cell with a corresponding thinning of the other side. The diameter of the corpuscle then becomes greater and finally the red cell becomes a bizarre and curved structure with elongated and pointed filaments.

Anemia is always present during a sickle cell crisis and may be severe with the red cell count as low as one to two million cells per cu. mm. The white blood cells are increased from fifteen to forty thousand per cu. mm. and normablasts are often present. If special techniques are used, reticulocytes may be found in quantities of from 5 to 25 per cent. Interestingly enough, the sedimentation rate is not increased even when the anemia is marked, due probably to the fact that the abnormal shape of the cells prevents rouleaux formation.

There is a slight increase in the icterus index, not usually over 30 units, and the Van den Bergh reaction is indirect.

The urine contains an increased quantity of urobilinogen and the specific gravity is usually low and fixed, indicating tubular damage to be expected with increased blood destruction.

Roentgen changes of note may appear in the skull, the vertebrae or in the long bones. The earliest changes in the skull is the development of a general opacity with a "ground-glass" appearance. Later a peculiar radial striation appears with the trabeculae arranged perpendicular to the inner table and producing a "hair-on-end" appearance. Osteosclerosis, cortical thickening, and new bone formation within the medullary cavity of long bones is often seen and sometimes leads to such diagnosis as luetic periostitis, scurvy and the like. Osteoporosis and flattening of the vertebral bodies may be present.

DISCUSSION

From this study of ninety-two cases of sickle cell anemia it can be seen that its clinical manifestations are many and varied, both in history and physical findings. The diagnosis is relatively easy if only it is considered. One could almost say that it should be considered in every negro patient who is acutely ill and who is severely anemic regardless of his complaint or physical finding.

The high incidence of cardiac changes occurring in sickle cell disease is worthy of some comment. Not only in sickle cell anemia, but in other severe anemias, the heart usually undergoes

certain physiologic changes. It first dilates, probably due to myocardial ischemia. The cardiac output and pulse increase and the circulation time lessens. In time, if the anemia is not improved, the heart hypertrophies. This latter change is a permanent one, whereas in the dilated heart of a relatively short standing anemia the size will decrease if the anemia is corrected. This work was graphically pointed out by Porter, who used patients with the chronic anemia of hookworm disease and found the heart size returned toward normal when the patient was rid of his infestation and the hemoglobin began to climb. Those patients who had had the disease many years developed an irreversible cardiac hypertrophy in spite of treatment. A similar circumstance occurs in the heart with sickle cell anemia.

The complaints of polyuria and polydypsia occurred just often enough in our cases to arouse our suspicions. We have not yet had opportunity to make renal function studies on the patients and only could observe the reported urinary specific gravity to be almost universally low, i.e. between 1.006 and 1.016. Whether those observations are significant we are not yet able to say.

The incidence of osteomyelitis seemed to be slightly higher in our cases than one could explain by coincidence. The relation here bears further study.

The almost inevitable abortion of the pregnant patient with sickle cell anemia has never adequately been explained. Kimmelsteil just recently suggested a new idea as to the cause of the frequent thrombotic phenomenon which occur in the spleen, lungs, kidneys, and brain of these patients. He believes that the ischemia caused by the low oxygen carrying capacity of the sickled red blood cell causes vascular spasms which in turn encourage thrombus formation. Conceivably, if this is true, similar vascular changes may occur in the pregnant uterus of the patient with sickle cell anemia and an abortion ensues.

SUMMARY

In summary, then, one could justifiably add sickle cell anemia to Osler's dictum that to know syphilis is to know other diseases. Sickle cell anemia is a great imitator. Ninety-two cases of this disease occurring in the Medical College of Virginia Hospitals over a ten-year period bear this out. The wide variation of the presenting complaints, the physical findings and numerous different diagnoses of these patients should in itself emphasize the possibility of sickle cell anemia in almost all acutely ill, young, negro patients.

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Medical Arts Building.

DISCUSSION

DR. JAMES P. BAKER, White Sulphur Springs, W. Va.: Dr. Higgins and Dr. Toone have given a very complete picture of the clinical manifestations of sickle cell anemia. The ninety-two (92) patients, whose case histories they studied, presented a variety of symptoms and signs such as is found in few diseases.

Yet, this is a comparatively new disease, one that has been accorded very little attention. The first case on record was reported by Herrick in 1910. The second case ever to be described was written up in the *Virginia Medical Semi-Monthly,* the precursor of the journal published by this Society, in 1911. The author of this second paper was Dr. B. E. Washburn, who was then a senior medical student at the University of Virginia. There were only two other cases described in the ensuing 12 years, with the result that it was considered a rare disease. Since the early 1920-s, so many cases have been reported that it has come to be regarded as quite a common disease. The authors of the paper we have just heard did not state how many years were covered by their report, but I am sure that practically all their patients were diagnosed during the past twenty years. I am sure, too, that many patients afflicted with this disease die in infancy or early childhood without being recognized.

We know mighty little about the origin of sickle cell

anemia. Inasmuch as it is confined almost exclusively to the negro race, it probably existed in those parts of Africa from which our negro population derived. As far as I know, however, only one case has been reported from Africa. It would be most interesting to search for this disease among the peoples who inhabit the western part of equatorial Africa.

Unlike the cells in congenital hemolytic icterus, the red cells in sickle cell anemia are more resistant than normal to hypotonic saline. It has been suggested that trauma in the circulation may be a factor. Some years ago we demonstrated this possibility by comparing the amount of hemolysis in normal and sickled bloods which were shaken in flasks with glass beads. Similar observations were made by Diggs and Bibb.

Why do such patients have crises of hemolysis, and symptoms referable to almost every system of the body? From the findings of other investigators, and our own observations, we can suggest mechanisms that may be responsible. When one considers the size and shape of the sickled erythrocytes it is easy to see how they might cause stasis of blood flow through capillaries, even blocking capillaries. Anoxemia resulting from such stasis would accentuate the deformity of cells. This vicious cycle of stasis, anoxemia, further sickling and stasis probably results in vascular injury with thrombosis. If the thrombus be of sufficient size and collateral circulation be inadequate, destruction of tissue will occur. It is probable that this same stasis, with trauma to deformed cells, is responsible for the excessive hemolysis.

DR. TOONE, closing the discussion: In answer to Dr. Baker's question, this study covered a period of five years. I might add, though, that the incidence of sickle-cell anemia would probably have been smaller some fifteen to twenty years ago because our index of suspicion has risen quite a bit at the Medical College in recent years.

There is one point I wish to stress again. That is that sickle-cell anemia offers a very bizarre, and very confusing clinical picture; but it may be diagnosed readily by a simple laboratory procedure. The whole trick seems to be in thinking about the disease and requesting that the particular test be made. Unfortunately, it is not a test that is done routinely.

Although the treatment of this disease is far from being satisfactory, it is still very important that a correct diagnosis be made as promptly as possible. Otherwise, many patients might be treated erroneously over a long period of time for one or several of the conditions mentioned which are frequently mistaken for sickle-cell anemia.

I wish to thank Dr. Baker for his discussion.

Bibliotheca Obstetrica

DOUGLAS, JAMES (1675-1742): Myographiae comparatae specimen or a comparative description of all the muscles in a man and in a quadruped, shewing their discoverer, origen, progress, insertion, use, and difference. To which is added, an account of the muscles peculiar to a woman. With an ethymological table and several useful index's. London: G. Strachan, 1707 xxxvi, 216, 16 p. 16 cm.

——: The same. Edinburgh. A. Kincaid, 1750. xxxii, 219 p. 16½ cm. (ML).

The author is described by Spencer as anatomist and man-midwife. Douglas' pouch is named after him. He was a brother of John Douglas (-1759) the lithotomist who also wrote *A Short Account of the State of Midwifery in London* etc., 1736.

THE RECOGNITION OF PRE-SCHIZOPHRENIC STATES*

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The ambition of the authors of this short study is threefold: first, to show why the precursors of schizophrenia should be of interest to all medical men; second, to present situations and deviations in behavior that have been found by others and by us to occur in persons who later develop the disease; and, third, to suggest something of a diagnostic profile which would sound the alarm calling for immediate and continued action to prevent the disorder. Methods for the suggested action will also be briefed.

Leland E. Hinsie, writing in *Psychoanalysis of Today*,[1] describes schizophrenia as a way of life which individuals adopt, perhaps for many causes. He believed that it developed from its precursor, schizoidism. He designated as schizoid that "type of person who lives essentially within himself, who shuns reality for reverie. He is an introvert, loosely connected with members of his family, and affiliated, if at all, with extra-familial activities. He is emotionally selfish, or as we say pre-eminently narcissistic, self-loving. He cannot abandon the center of the infantile stage in favor of later integrated behavior."

Schizophrenia, a form of faulty adaptation, was first recognized as unitary in structure by Kraepelin. He collected under the term dementia praecox many species of reaction characterized by what seemed to him to be deterioration in young adults. Later Bleuler applied the term schizophrenia to the reaction because of abnormalities in the emotional reaction which he deemed important. The name has held since. Now, however, emphasis is placed on the bio-social character of the disease. It is known to be a disorder which can occur at any time of life from childhood to old age. It seems to be based on physiological and anatomical inadequacies, but is brought into being by difficulties with inter-personal relationships. The reaction is characterized by use by the personality of two mechanisms of defense, one withdrawal, and the other fantasy, two types of behavior which become habitual, thus leading their victim on into a lonesome life in a community constructed by himself to meet his needs.

This abnormal type of human behavior is frequent in its occurrence. It constitutes about 20% of admissions to mental hospitals all over the world. Table No. I taken from the work of Leopold Bellak

TABLE I

Dementia Praecox	22.3
Psychoses with Cerebral Arteriosclerosis	22.0
Senile	13.2
Alcohol	5.9
General Paresis	5.3
Manic-Depressive	4.4

entitled *Dementia Praecox*[2] gives the leading groups of first admissions to the New York civil state hospitals per 100,000 general population in 1943. Table No. II taken from the same work shows first and readmissions in residence in September, 1940, by diagnosis and percentage distribution from the

TABLE II

	First Admission	Readmission
Dementia Praecox	47.4	56.1
Cerebral Arteriosclerosis	8.1	2.2
Mental Deficiency	7.7	8.4
Alcoholic	5.9	4.6
Manic-Depressive	5.6	10.7
Senile	4.5	.8
Convulsive Disorders	3.7	4.1
Syphilitic Meningoencephalitis	3.7	2.1
Involutional	3.4	2.1
Paranoia	3.1	2.8
Psychoneuroses	.9	1.0
Psychopathic Personality	.7	1.5
Without Psychoses	.7	.5
Other Forms of Syphilis	.7	.3
Other Metabolic Diseases	.6	.2
Epidemic Encephalitis	.3	.3

Annual Report of Mental Health for the year ending November 30, 1940, East Gardner, Massachusetts. Every fourth or fifth hospital bed in this country is occupied by a case of schizophrenia. The disease strikes in early adult life as a rule, the median age of onset around 25 years of age. The

*Read before the annual meeting of the Medical Society of Virginia, in Richmond, October 18-20, 1948.

victims are totally disabled and are usually unable to produce from then on[3]. The average age of death is 55.8 years, according to the New York report of 1943[4]. Some authors feel that for every schizophrenic in a hospital, there is another living in the community, either partially crippled but able to get along, or totally incapacitated, yet kept in the home by the family. Certainly there are a great many people living in the community who are either incipient schizophrenics or about to become victims of the disease. The number of persons now in the state hospitals of Virginia with this disease is 3,279; the admissions were 501. The number of patients with that diagnosis which were admitted to the University Hospital last year was 86. These and many other reasons indicate that the prevention of this disease should be the concern of all physicians.

Frequent studies have been made on the prodromata of this condition. The need to screen out the potential victim of schizophrenia has been emphasized by the experiences of the last war. Tests as well as other techniques for recognition of future victims have been suggested for use when examining draftees. Shock therapies of different kinds during the last decades have changed the concepts regarding treatment, and have placed the emphasis on early diagnosis, since treatment in the disease in its incipiency has a better prognosis. Also of late many mild cases of schizophrenia have been recognized that are short-lived and get well. It is felt too that many cases of the disease are mistreated during the mild stage because of faulty diagnosis. Therefore, medical men have sought for the criteria of early recognition. Finally, recent emphasis in the public schools for treatment of the tendency to withdraw as represented by the shy child by means of special classes has stimulated the search for preschizophrenic characteristics which can be eliminated.

Early recognition, according to Hinsie, as stated above, would follow the recognition of schizoidism, as he calls it. "D. E. Cameron differentiates nonspecific early symptoms and specific schizophrenic symptoms. The former, the non-specific or prodromata, he divides into the hyper-active pattern characterized by anxiety and worry, and a hypo-active group characterized by day-dreaming and loss of interest in the world. The more specific early schizophrenic symptoms he subdivides into ideational references, such as the feeling of being talked about, watched, doped, etc., and experiences, such as being dazed, dizzy and other vague somatic references."[5]

Potatin and Hoch find the existence of schizoid or schizophrenic individuals in the family, traits associated with introversion, mood fluctuations, and free floating anxiety as important indicators; fatigue, worry, hypochondriacal ideas, feelings of being dazed, and diffuse pan-psychoneurotic manifestations. Tillman advises that the work habits be studied, that shiftiness and general asocial characteristics carry the liability of schizophrenia. Caldwell studied 100 schizophrenic soldiers. He found schizoid personality a most common type, and the precipitating factor was sexual abnormalities in 50% of the cases. Hoskins considers the earlier symptoms non-specific with a general loss of capacity to get on effectively with everyday activities and a tendency toward misinterpretation as the basic feature. Malmud and Malmud brought out the following characteristics as most common: quiet, sensitive, reserved, timid, feelings of inferiority and inadequacy, insecure, passive and unstable.[6]

Psychological studies show early characteristics of instability, while all physiological studies so far made are not conclusive, but show one characteristic in common. Any data observed showed a greater variability than normal. Some studies suggested that the schizophrenic is poorly adapted to deal effectively with stimuli.[7]

In summary, a review of the literature on prodromata indicate that the type of isolated living called schizophrenia is most likely to develop in those persons who have the history of mental disease in their family, who have anatomically an asthenic or dysplastic body structure, who show marked variability in physiological reactions, who make loose family connections, tend to be anxious, have inability to get along with everyday activities and tend to misinterpret. Their employment record is likely to show shiftiness. Psychological testing shows emotional instability and signs of emotional blunting with loss of interest.

There is evidence of an inherited factor which probably has to do with the finding of small hearts and irregular bodies in the group, but it must be remembered that at least 50% of schizophrenics show very slight evidence of inborn factors. Many have normal builds; also many investigators do not find schizoid personality as a prerequisite. There is uniformity among all observers that there is dif-

ficulty in the intra-family relationships, there is difficulty in sexual development, but the relation of the individual to the community is perhaps the prominent factor in producing the maladjustment.

The physician who first sees this potential schizophrenic cannot take anthropological measurements. He cannot study numerous physiological tests, or have a battery of psychological studies performed. He finds a patient who is anxious, shy and has many hypochondriacal complaints. The patient may or may not be in danger of chronic mental disease. The doctor has to decide. The following study was made to help him in his dilemma.

The records of 220 schizophrenics were carefully reviewed. Of this number 70 records were selected which described the premorbid traits of the patient with sufficient clarity to draw conclusions. The traits that appeared in one record were then checked with others until twelve characteristics were selected for study. The percentage frequency of their occurrence was then estimated. This was followed by a determination of the number of years previous to the outbreak of definite schizophrenia these characteristics appeared.

The first characteristic situation that appeared in the history was entitled lack of normal identification with parents. For some reason the boy or the girl did not have the usual association with his or her parents. These reasons included death or absence of one of the parents, and the rejection of the child by the parents. Children born late in the life of parents after many other siblings intervened were found to be unable to associate with parents sufficiently to absorb a sufficient number of their personality traits to enable them to develop social skills. Any disruption of the family to affect childhood development in a serious fashion should take place within the first ten years of life. Therefore, as you would expect, evidence of lack of the usual amount of parental identification occurred an average of 18 years before the illness in 57% of the records selected.

The appearance of traits was considered from the point of view of chronological development; that is, according to the number of years the trait appeared before there was a frank outbreak of schizophrenia. The second finding, when this method was followed, (see Table IV) was evidence of actual rejection of the child by parent or parents, a condition included in the previous category, but so striking in its occurrence that it was studied as a separate trait. The designation of rejection by parents was given to a situation where there was open hostility by parents or the opposite pathological over-protection which was considered a reaction formation to rejection, therefore of the same significance. Any situation that led the patient to feel rejected by parents was included in this group. Definite rejection, as described, occurred in 31% of the 70 records and occurred on an average of 16.1 years before the onset of disease.

Abnormal fears began to appear early also. Fears of closed places, fears of the dark of severe degree occurred in 18 cases on an average of 13.6 years before the disorder became definite. In the next group were 16 patients who were found to have had inferiority feelings for many years. Some of them had compensatory attitudes of superiority which they admitted were hiding feelings of inferiority. The average length of their existence prior to the outbreak of definite disease was 12.6 years.

Forty-two or 60% of the patients gave a history of social maladjustment—difficulties with play, with school or with work; inability to make friends or to hold them; dissatisfaction with situations, especially with jobs which were changed frequently. All these characteristics were grouped under social maladjustment. The average length of appearance before disease onset was 10.9 years. As the average age of onset of frank schizophrenia among our patients was 24.6 years, social maladjustment as designated above occurred on an average in early adolescence.

Difficulty in heterosexual adjustment was the most common finding occurring in 53 or 76% of the cases 9.6 years before onset. The age of 15 was selected arbitrarily as the upper limit of the time when a person should show some interest in the other sex. Other difficulties in sex adjustment were included, especially those who had made an attempt and then failed. Seclusiveness began to appear nine years before the disease. Thirty patients showed this as a definite trait. Guilt feelings over masturbation and special religious preoccupations sufficient to interfere with life were the next to appear.

Approximately eight years before onset definite symptoms of nervousness or anxiety tension began to appear. Such things as flying off the handle, getting upset easily, difficult to manage, were de-

scribed by the patient or by relatives and friends. About this same time physical complaints for which no definite organic source could be found began to appear. Irritability of a constant nature without evident cause and hypochondriacal complaints are perhaps signs of incipient schizophrenia, yet the average time of onset was eight years before the disease. Certainly day-dreaming of such a degree that it was used as a substitute for action and interfered with normal living is a symptom of the disease rather than one of prodromata, yet it is included because in ten patients the first appearance of pathological day-dreaming was 4.5 years before onset of outspoken disease.

The breakdown of the cases according to sub types is shown in Table No. III, while Table No. IV shows the twelve reaction types arranged according to the number of years their appearance antedated the outbreak of schizophrenia. Table No. V, which presents the types arranged according to percentage frequency, emphasizes the fact that interpersonal relations have most to do with the disease development, but that inter-family relations in early life set the stage, as it were, for future development.

Therefore, if you have a patient who is irritable and tense, with vague physical complaints for which there is no definite cause, and you find that the patient had a broken home or an over-protective mother, has feelings of inferiority, has not learned to play or work with others, and now is beginning to withdraw from contact with the community, you have cause to be alarmed, because that patient is a potential schizophrenic who in another five years at least will have evident symptoms of the disease. Psychiatric study should be instituted at once. The patient may already be beyond brief psychotherapy and in need of prolonged analysis or perhaps shock therapy.

The girl or boy that fails in his social adjustment up to the age of 15 and the girl or boy who has given no definite evidence of interest in the other sex by the same age should also have investigation, especially if there is evidence of an abnormal home situation. The doctor, the teacher and the family should be on the alert to recognize maladjustment at this age so as to prevent the advancement into the use of fantasy as an escape, a condition that so frequently becomes habitual, leading on to that way of life, the disease schizophrenia.

Of course, these twelve types or constellations of events occur in many individuals who do not develop this serious mental disorder. Yet, if the physician, on finding one present in the history will then seek for the others, he can tell by their presence or absence how serious the patient's situation is, and how far the patient has advanced down road toward manifest schizophrenia.

TABLE III

Total Number of Cases of Schizophrenia		70
Paranoid	37	
Simple	16	
Catatonic	12	
Hebephrenic	5	
Average Age of Onset of Schizophrenia		24.6 years

TABLE IV

Type	Cases	Per Cent	Average Duration
1. Lack of Normal Identification with Parents	40	57%	18.0 years
2. Actual Rejection by the Parent or Parents	22	31%	13.6 years
3. Fears	18	26%	13.6 years
4. Feelings of Inferiority or Compensatory Superiority	16	23%	12.6 years
5. Social Maladjustment	42	60%	10.9 years
6. Difficulty in Heterosexual Adjustment	53	76%	9.6 years
7. Seclusiveness	30	43%	9.5 years
8. Masturbation Guilt	16	23%	9.3 years
9. Religious Preoccupations	12	17%	9.1 years
10. Irritability	21	30%	8.8 years
11. Physical Complaints	23	33%	8.1 years
12. Day-Dreaming	10	14%	4.5 years

TABLE V

Type	Cases	Per Cent
Difficulty in Heterosexual Adjustment	53	76%
Social Maladjustment	42	60%
Lack of Normal Identification with Parents	40	57%
Seclusiveness	30	43%
Physical Complaints	23	33%
Actual Rejection by the Parent or Parents	22	31%
Irritability	21	30%
Fears	18	26%
Feelings of Inferiority or Compensatory Superiority	16	23%
Masturbation Guilt	16	23%
Religious Preoccupations	12	17%
Day-Dreaming	10	14%

PSYCHOLOGICAL SUMMARY

Persons suffering from pre-schizophrenia show

impaired contact with reality as is evidenced by peculiarities of thinking, action, or emotional expression; since they have neither the acute symptoms (delusions, hallucinations, etc.) nor complete lack of contact with ordinary living, they cannot be considered psychotic. One group of pre-schizophrenics show long-standing inhibition, inappropriate anxiety, and often are preoccupied with sexual matters, etc. They are apt to be incapable of critical evaluation of situations and their own behavior, and of efficient planning and thinking. Their emotions are apt to be impulsive and inappropriate. The other pre-schizophrenics show a tendency to retreat into fantasy and at the same time a great deal of emotional impulsiveness and inappropriateness; also, with poor control of their emotions. Their fantasies may be completely unrealistic and may be pre-occupied with sexual fantasies. In summary, very immature emotional expression and peculiar thinking, with intellectual functions still good enough to prevent the acute symptoms, appear to be the forerunners of schizophrenia.

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DISCUSSION

DR. HOWARD R. MASTERS, Richmond: Dr. Wilson has, in his presentation, correlated findings of pre-psychotic schizophrenic states in which I have for a long time held much interest. He has presented the subject thoroughly and most clearly.

It is not too difficult to detect signs and behavior reactions in children and adolescents which are suggestive of schizophrenia or schizoid personality states. We have in the past most likely avoided too much mention of these possibilities to parents and have probably been just as dilatory in recommending treatment for fear that the patient might be tagged with the diagnosis which it might be difficult to get rid of.

Unquestionably schizophrenia is predominantly a disease of environment but not without the effect of heredity and the particular kind of constitution possessed by the individual. Potential mechanisms of schizophrenia may be observed in children under two years of age and may be expressed as shyness, over modesty, especially in reference to the genital and anal regions, evidence of fears, asocial or hostile reactions. Such children should be observed closely through their childhood and the environment analyzed and corrected if possible. We have seen schizophrenia manifest itself at the age of 9, and the early symptoms appeared to be those of manic excitement. The patient required hospitalization because of the acuteness of the psychosis. Signs and symptoms of this personality type frequently become more apparent in the so-called stage of puberty. One little girl who began to menstruate at 11 resented the fact to the extent that at the age of 12 she had almost suppressed her menstruation and the arrest in her personality development was revealed in her statement, "I do not want to menstruate because it means you will grow to be an adult, and adults have so many responsibilities and troubles that I always want to remain a little girl." She later showed very strong schizophrenic behavior and definite arrest in her physical as well as personality development.

Dr. Wilson brought out the fact of rejection, either by parents or other members of the family, as an important factor. This psychopathological process frequently leads to fear and insecurity, which often has an effect on the neuro-physiological function of the vegetative nervous system through producing vascular vasoconstriction, reduced circulation and restricted metabolic processes. This of itself may be sufficient to affect the endocrines and to arrest development. Nolan D. C. Lewis showed many years ago that the heart and the greater vessels of schizophrenics were approximately one-third smaller than those of average normals. The actual vascular tension was also less. These findings can be observed in schizophrenics during life and at autopsy. By doing orthodiagrams of the heart and keeping consistent blood pressure and pulse readings, some train cell changes have been noted. In adolescent children, if these signs are picked up, early treatment with endocrine preparations and correction of the pathological environmental situations may be helpful in preventing the development of schizophrenia. It is exceedingly important that children who show pre-schizophrenic signs should not be handled as psychotic individuals, but on a regime of guidance of the child and correction of the environmental pathological situation which may exist. Detailed study of the every-day living of the family is most important. If the evidences of maladjustment of the child become too great and the cooperation of the family too little, frequently a well controlled treatment residence should be selected where guidance may be carried out under a psychiatrist well oriented in child psychiatry, psychiatrically trained social workers and house mothers, such as is being done in the Memorial Guidance Clinic with its associated Memorial Foundation Home.

I would like to again thank Dr. Wilson for his very excellent paper.

DR. GORDON C. G. THOMAS, Charlottesville: This paper as originally titled in the program was to include something of the therapy in pre-schizophrenic states. Because of the time allotted, we decided to leave out any consideration of therapy.

I should like to emphasize one thing. As shown in our paper, when we take the histories of schizophrenic patients, early maladjustments are evident many years before the onset of actual schizophrenia. The recognition of these early states should be the concern of all physicians. Our state hospitals are crowded, and anything that can be done to lessen the number in the future is of major concern. Just as in cancer and tuberculosis, mental disease is much more amenable to therapy in its earliest stages.

The family physician usually has the best opportunity to recognize early maladjustments, and it should be the responsibility of all physicians to note these and to spend a few minutes conferring with the child or adolescent and the family. He might be able to affect various adjustments in the home or school, and, if the problem is too great, the patient should be referred for psychiatric investigation.

Develop New Surgery to Relieve Heart Failure.

Three new operations that relieve heart failure have been devised by two doctors from the Buenos Aires Medical School, Buenos Aires, Argentina.

"An immediate and dramatic improvement in patients suffering from heart failure who were no longer responsive to medical treatment has been the rule over a period of six months, which is our longest observation time," Pedro Cossio, M.D., and Isidro Perianes, M.D., write in the July 2nd *Journal of the American Medical Association.*

The procedures are designed to drain off blood from the lungs by creating an artificial passage through which it can flow into the main circulatory system of the body, and to reduce output of blood from the right side of the heart.

"Drainage of a large proportion of pulmonary venous blood into the systemic circuit represents a physiologic approach to surgical management of the 'cardiac lung.' Thereby, the excessive blood discharged by the right ventricle reaches the general circulation directly from the lungs, and pulmonary stasis [stoppage of blood flow] disappears. The stress on the left ventricle is reduced and allows for an increase in output once it has reached a point below the critical level."

Question Value of Rice Diet.

Restriction of table salt by the rice diet or other diets does not appear to be of much benefit in treating patients with advanced high blood pressure, a study made by doctors from Washington University School of Medicine, St. Louis, shows.

"Restriction of sodium chloride in the diet, either by the rice diet or other means, is usually ineffective when the condition is advanced," Henry A. Schroeder, M.D., Melvin L. Goldman, M.D., Palmer H. Futcher, M.D., and Marlene Hunter, B.S., of the Department of Internal Medicine of the school and Barnes Hospital report in the June 4th *Journal of the American Medical Association.*

Of 16 patients treated by the doctors for high blood pressure, response to the rice diet or other low salt diet was poor in 13, most of whom were suffering from the disease in its severer stages. Three patients with milder forms of the disease were benefited.

As a possible explanation of the beneficial effects of the diet in some cases of high blood pressure, patients may have a condition of which high blood pressure is only one symptom.

Six other patients, all obese and all having symptoms suggestive of an alteration in some of the functions of the adrenal cortex (the outer portion of the adrenal glands, located at the upper end of each kidney) were treated by the doctors for high blood pressure. All were benefited by a low salt diet.

ARTERIOSCLEROTIC HEART DISEASE IN DIABETICS*

ROBERT L. BAILEY, JR., M.D.,
Richmond, Virginia.

Introduction: It is generally conceded that diabetics are prone to exhibit the stigmata of arteriosclerosis, including arteriosclerotic heart disease, with greater frequency and at an earlier age than non-diabetics.[1] Because of this characteristic of diabetes it should be profitable to study a group of these patients for evidence of arteriosclerotic heart disease, to examine the manifestations of this heart disease, and to evaluate the influence of severity, duration, degree of control of diabetes and of other factors on its development. It is hoped that such a study might ultimately add something to the understanding of arteriosclerosis and arteriosclerotic heart disease.

Material and Methods: Five hundred consecutive, unselected diabetics are included. Most of these were followed over a period of several years and subjected to both physical and laboratory examinations, including electrocardiograms, at frequent intervals. Electrocardiograms had not been taken on many of the children and some of the young adults and only those with electrocardiograms were included in the study. Because of this, the series has fewer cases in the younger age groups. The ages ranged from 15 to 87 years, with an average age for the group of 55.7 yrs. Ninety-five per cent were white and the rest colored. Almost all were native born Americans. Sixty per cent of the group were females.

The duration of diabetes was determined from the onset of symptoms or the discovery of glycosuria. The severity of diabetes was based on insulin requirements; those taking ten units or less a day were classed as mild, those taking from eleven to thirty units a day were considered moderate, and those needing more than thirty units were called severe diabetics. Episodes of acidosis were determined by the clinical findings of acidosis and the presence of acetone in the urine but not by the presence of acetone alone. A blood sugar level of 200 mg.% was selected to classify the degree of control of diabetes. If most of the blood sugar determinations were below this level, the control was considered good; if above 200 mg.% it was classed as poor. Coronary occlusion and angina pectoris were considered to be evidence of arteriosclerotic heart disease. So was congestive failure when types of heart disease other than arteriosclerotic were absent. The diagnosis was made from the electrocardiogram when it showed the characteristic T-wave changes in the limb leads and chest lead, when the QRS complexes were low and split and accompanied by T-wave changes, and when there was bundle branch block.

Findings: Coronary occlusion occurred in 51 cases of this series. Angina pectoris was present in 38 cases, and congestive heart failure occurred in 44 cases. The electrocardiogram showed many abnormalities. Interventricular heart block was present in 18 cases. T-wave changes characteristic of arteriosclerotic heart disease were found in 151 cases. The Q-wave in lead III was found to be abnormally deep in many cases but this alone was not used as evidence of arteriosclerotic heart disease. Abnormal rhythm was present in several cases and prolonged P-R conduction time was found a few times.

TABLE I

Age Group years	Number of Cases	Cases with As. Ht. Dis.	Percentage
11-20	3	0	
21-30	19	0	
31-40	36	3	8%
41-50	85	17	20%
51-60	154	57	37%
61-70	155	72	40%
71-80	43	22	51%
81-90	5	4	80%
Total	500	175	35%

Distribution of cases and frequency of arteriosclerotic heart disease by decades.

A total of 175 cases or 35% of the series were classified as having arteriosclerotic heart disease. Of the 21 diabetics below the age of 31 years, none had heart disease. Three or 8.3% of the 36 cases between 31 and 40 years showed evidence of arteriosclerotic heart disease. There were 85 cases in the 41 to 50 year decade with 17 of them or 20% having heart disease. The frequency increased with age and the next four decades with 154, 155, 43,

*Read before the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1948.

I am indebted to Dr. William R. Jordan from whose file of private patients these cases were taken.

and 5 cases respectively had 37%, 40%, 51% and 80% incidence of arteriosclerotic heart disease.

Evidence of heart disease was present in 35.6% of the males and in 34.7% of the females. There was no significant difference between the sexes in the various decades.

years duration had an incidence of 41.9%. The influence of duration of diabetes was most apparent in cases between 41 and 70 years of age.

Three hundred and twenty-five of the series were classed as obese and 175 as non-obese. 39.1% of the obese group had arteriosclerotic heart disease as opposed to 27.4% of the non-obese group.

TABLE II

Age Group years	Mild Cases	% Ht. Dis.	Moderate Cases	% Ht. Dis.	Severe Cases	% Ht. Dis.
11-20	0		0		3	
21-30	3		2		14	
31-40	15	6.7%	7	14.3%	14	7.1%
41-50	49	14.1	16	18.8	20	35.0
51-60	69	29.0	45	37.8	40	50.0
61-70	48	41.7	59	45.8	48	51.2
71-80	23	43.3	12	50.0	8	52.1
81-90	1		2	100.0	2	100.0
Total	208	27.9%	143	39.2%	149	40.9%

Degree of severity of diabetes and frequency of arteriosclerotic heart disease by decades.

There were 208 mild, 143 moderate, and 149 severe diabetics. These groups showed a 27.9%, 39.2%, and 40.9% incidence of arteriosclerotic heart disease respectively. This increased frequency with increase in severity of diabetes was seen only in the cases over 40 years of age and was most marked in those cases between 41 and 60 years of age.

There was good control of diabetes in 404 cases and poor control in 96 cases. These groups showed a 30.2% and a 55.2% incidence of heart disease respectively. This was best seen in the 5th and 6th decades.

Clinical acidosis occurred in 40 cases. There was no increase in the frequency of arteriosclerotic heart

TABLE III

Age Group years	4 years and less Cases	% Ht. Dis.	5 to 9 years Cases	% Ht. Dis.	10 to 14 years Cases	% Ht. Dis.	15 years and more Cases	% Ht. Dis.
11-20	3	0%	0	0%	0	0%	0	0%
21-30	5	0	4	0	5	0	5	0
31-40	18	11.1	8	12.5	8	0	2	0
41-50	41	19.5	17	17.6	13	23.1	14	21.4
51-60	49	28.6	50	40.0	31	45.2	24	37.5
61-70	37	37.8	34	41.2	40	47.5	44	56.8
71-80	11	54.5	8	37.5	8	50.0	16	56.3
81-90	0	0	0	0	1	100.0	4	75.0
Totals	285	29.8%			215	41.9%		

Duration of diabetes and frequency of arteriosclerotic heart disease by decades.

There were 164 cases with diabetes of less than five years duration; 121 cases fell in the 5 to 9 year group; 106 were from 10 to 15 years duration; and 109 cases were of 15 or more years duration. The cases of less than 10 years duration showed 29.8% arteriosclerotic heart disease, and those of over 10

disease in this group. There were too few colored patients in the series to justify any conclusions.

DISCUSSION

These results have been subjected to statistical analysis and the difference in two groups has been

TABLE IV

Age Groups years	Obese Cases	% with Ht. Dis.	Non-Obese Cases	% with Ht. Dis.	% Obese Cases in Total Ht. Dis. Cases
11-20	0	0%	3	0%	0%
21-30	3	0	16	0	0
31-40	20	15	16	0	100
41-50	66	19.7	19	21.0	76.5
51-60	105	39	49	32.6	71.9
61-70	103	46	52	38.4	72.2
71-80	25	60	18	38.8	68.2
81-90	3	100	2	50	75
Totals	325	39.1%	175	27.4%	72.6%

Obesity and the frequency of arteriosclerotic heart disease by decades.

TABLE V

Age Group years	Good Control Cases	Good Control % Ht. Dis.	Poor Control Cases	Poor Control % Ht. Dis.
11-20	2	0%	1	0%
21-30	13	0	6	0
31-40	30	6.7	6	16.7
41-50	75	16.	10	50.
51-60	123	28.5	31	71.
61-70	119	43.7	36	55.6
71-80	38	47.4	5	80.
81-90	4	75.	1	100.
Totals	404	30.2%	96	55.2%

The degree of control of diabetes and the frequency of arteriosclerotic heart disease by decades.

considered significant only where this difference is more than twice the sum of the standard error for the two groups. The influence of chance is thus reduced to a minimum. Several findings emerge as significant.

The greater the duration of diabetes, the higher the incidence of arteriosclerotic heart disease. This is shown in this series by a significant difference in the frequency of heart disease in cases with diabetes of less than ten years duration and in cases of ten or more years duration. Root[2] states that an exposure to diabetes of several years duration is an important factor in the development of angina pectoris and finds that the frequency of angina trebles in the second ten years of diabetes. In autopsies Warren[3] found advanced arteriosclerosis in all cases of over 15 years duration and Rabinowitch[4] believes that the duration of diabetes is the most important factor determining the frequency of arteriosclerosis. Even more striking are the findings in a recent report of autopsies by Millard and Root.[5] In seven diabetics with onset between 10 and 18 years of age and a duration of 14 to 20 years, all cases showed marked arteriosclerosis of the coronary arteries. In contrast to these were five cases with onset between 11 and 27 years of age and a duration of less than six years, none of which showed significant coronary arteriosclerosis.

There is a significantly higher incidence of arteriosclerotic heart disease in moderate and severe diabetics than in mild diabetics. This has not been found in autopsy studies, and Stearns, Schlesinger, and Rudy,[6] as well as Hart and Lisa,[7] state that the severity of coronary arteriosclerosis is not correlated with the severity of diabetes. Dolger,[8] in a clinical study of 200 diabetics of 25 years duration, found that severity of diabetes had no influence on the incidence of arteriosclerosis. That the clinical evidence of coronary arteriosclerosis is influenced by the severity of diabetes is shown, however, by this series where 40% of 292 cases of moderate and severe diabetes had evidence of coronary arteriosclerosis and only 28% of 208 mild diabetics had such findings.

The presence of obesity in diabetics favors a higher incidence of arteriosclerotic heart disease. The percentage of obese diabetics with evidence of arteriosclerosis increased with increase in age, as would be expected, and was significantly greater than the percentage of cases of arteriosclerosis in the non-obese group. Of greater interest, however, was the fact that a high percentage of the cases with arteriosclerosis in each decade were obese, and that this was most marked in the younger cases. Thus, all cases with arteriosclerotic heart disease in the 31 to 40 year age period were obese. This proportion decreased in succeeding decades, so that only 68% of the cases with arteriosclerosis in the eighth decade were obese. It seems, then, that obesity not only favors the development of arteriosclerotic heart disease but also favors its appearance at an early age.

There is no significant difference between the frequency of arteriosclerotic heart disease in male and female diabetics. This has been noted in several studies of autopsy material[9] and is in marked contrast to the preponderance of arteriosclerosis in the males of the non-diabetic population.[10]

There is a difference of opinion in the literature as to the influence of close control of diabetes on the development of arteriosclerosis. In autopsy material, Milland and Root[5] found that cases showing most marked arteriosclerosis had had poorly controlled diabetes. Ricketts[11] believes that hyperglycemia is harmful to the diabetic patient, and others[12,13] share this view. Lawrence[14] and Tolstoi,[15] however, find no reason to believe that hyperglycemia causes premature onset of arteriosclerosis in the diabetic, and Sindoni[16] states that a postprandial blood sugar level below 170 mg.% probably contributes to or causes the vascular injury. The final answer to this question will not be given until the nature of diabetes and of arteriosclerosis are better known. This series, however, shows that diabetics with poor control have a significantly higher incidence of arteriosclerotic heart disease and that this

is best seen in cases between the ages of 41 and 60 years.

In conclusion, it appears that four of the factors considered in this study favor the development of arteriosclerotic heart disease. These are: (1) obesity, (2) diabetes of ten or more years duration, (3) diabetes of moderate or severe degree, and (4) poorly controlled diabetes.

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DISCUSSION

DR. J. EDWIN WOOD, JR., Charlottesville: Dr. Bailey has shown the acceleration of arteriosclerotic heart disease associated with diabetes. As a matter of fact, it is even more striking in the remainder of the vascular tract. Dr. Mulholland kindly gave me a study reported in October, 1947, on the relationship between vascular and metabolic disease. The leading paper of this group was by Dr. Priscilla White, of the New England Deaconess Hospital. These cases started quite young with diabetes. It was shown that in these young adults with long standing diabetes the incidence of coronary disease was 8 per cent; nephritis 50 per cent; retinal hemorrhage 80 per cent; retinal sclerosis 85 per cent. These patients were not over thirty-nine years of age and had suffered from diabetes fifteen to twenty years. So that diabetes is definitely associated with progressive vascular disease even in very young people.

Dr. Bailey has shown us that diabetes alone is bad enough, but his data strikingly indicate that diabetes with obesity is decidedly worse, particularly in young adults.

Others are better qualified to discuss the difference in the management and control of diabetes, but I remember that some years ago it was thought wise to keep carbohydrate as low as possible and make up calories with a very high fat diet, which is the exact antithesis of what we do today. You remember, further, that the regime of high fat and low carbohydrate apparently led to inferior results when compared to what we get today, with a relatively high carbohydrate high protein diet and relatively low fat. Many of the cases in Dr. Priscilla White's series must have had both types of treatment and further work is necessary in this regard.

The solution of this problem is more than the solution of the problem of diabetes. Considerable light has been thrown on arteriosclerosis itself, and while it may not have solved the whole problem, it will at least be the opening wedge. We may at least look forward to some control of progressive vascular disease with diabetes.

DR. H. B. MULHOLLAND, Charlottesville: I have been very much interested in Dr. Bailey's paper and also in Dr. Wood's discussion. It does seem that there are quite a few points that should be emphasized. Dr. Wood has just mentioned the fact that arteriosclerosis, by and

large, in diabetics is similar to arteriosclerosis in non-diabetics; and therefore an insight into the causes of arteriosclerosis in diabetics might throw some light on the important subject of arteriosclerosis in non-diabetics.

The matter of obesity and the question of diet have been touched upon, and I am glad that Dr. Wood brought out this point, namely, that perhaps some of Priscilla White's and Dr. Dolger's patients who have had diabetes for twenty or twenty-five years undoubtedly started at the time when we used a regime of treatment with a low carbohydrate and high fat diet, which may have had something to do with the high incidence of arteriosclerosis. We cannot be certain, but it is a possibility to be considered in discussing these series of cases.

The group working on arteriosclerosis at Bellevue in New York has shown that many people who come to autopsy table in an emaciated state were obese before their last illness; and they also seem to have shown that there has been a disappearance of cholesterol from the arteriosclerotic plaques and blood vessels of those individuals during their last illness, indicating that the loss of weight which occurred at that time has been associated with some change in cholesterol metabolism. I think that the most interesting problem being studied is that of cholesterol metabolism, which is being attacked by many individuals. Dr. Ricketts, of Chicago, is conducting a series of experiments which now have gone on for several years on dogs with diabetes control and without control. To rule out hereditary factors, he is using a pure strain of beagle hounds. The results of this study, of course, will not be known for some years.

May I repeat that this has been a very interesting paper. I should like to ask if anybody knows of any similar series of cases of obese non-diabetic individuals who have been studied and whether there is a similar high incidence of arteriosclerosis and arteriosclerotic heart disease in these obese non-diabetic individuals.

DR. WM. R. JORDAN, Richmond: I should like to make just two or three comments. One is that I think a study such as this will help us to understand better the degenerative diseases, which seem to be our chief problem at present.

Two things rather stand out. One is that in estimating the influence of any one causative factor one must rule out other more important factors. For example here, the way arteriosclerosis is influenced by age is far greater than any other single factor we know of. Unless we take a younger age group, say thirty to sixty years, I do not think we can properly estimate the other factors. I think Dr. Bailey's slides brought that out.

The difference between this paper and others read by Dolger and Tolstoi, *et al.*, is that some of them are very pessimistic. We read that control has nothing to do with it, that diet has nothing to do with it, that duration alone will determine it. Of these factors which Dr. Bailey mentioned—duration, severity of the disease, control, and obesity—we have two absolutely under our control. They are the blood sugar and the weight. We cannot influence the duration, and often cannot influence the degree of severity. There is, however, some evidence that prompt and continuous control of diabetes does make it milder, and that does give us a ray of hope.

I certainly enjoyed the paper.

DR. BAILEY, closing the discussion: I should like to thank Dr. Jordan and Dr. Mulholland and Dr. Wood for their discussion.

New Upjohn Branch in Philadelphia.

With the acquisition of 25,500 square feet of space on the seventh floor of the Terminal Commerce Building, 401 North Broad Street, a new Philadelphia Branch of The Upjohn Company will be in operation on or about July 1, 1949. This branch will serve eastern Pennsylvania, southern New Jersey, Delaware, Maryland, Virginia, northern North Carolina, and the District of Columbia, all of which were formerly in the New York branch. The unique facilities of the Terminal Commerce Building, viz., rail sidings under the building, under-cover truck docks, and a post office within the building, plus the central location of the branch in Philadelphia, will enable The Upjohn Company to offer improved services to the druggists in the branch area.

AN ANALYSIS OF 27 REPORTED FATALITIES IMMEDIATELY FOLLOWING THE INJECTION OF A MERCURIAL DIURETIC

THOMAS E. STANLEY, M.D.,
Martinsburg, West Virginia.

The purpose of this paper is to present statistical data and comments on an analysis of 27 cases which have been reported in the literature in which death occurred immediately after the injection of a mercurial diuretic. Even though no definite conclusions can be drawn from this study, it is felt that the data as presented are of value.

A. Sex:

Fourteen deaths occurred in males and 13 deaths occurred in females.

B. Age:

0—20 years	5 deaths
20—40 years	4 deaths
40—60 years	11 deaths
60—80 years	7 deaths

C. Clinical Diagnosis:

Congestive heart failure	9 cases
Nephritis	4 cases
Arteriosclerosis	4 cases
Rheumatic heart disease	3 cases
Nephrosis	3 cases
Myocardial infarction	3 cases
Hypertensive cardiovascular disease	3 cases
Arteriosclerotic heart disease	3 cases
Nephritis, nephrotic stage	2 cases
Angina pectoris	2 cases
Congenital heart disease	2 cases
Diabetes	2 cases
Tabes dorsalis	1 case
Ventricular aneurysm	1 case
Pulmonary infarction	1 case
Syphilitic heart disease	1 case
Aortic insufficiency	1 case
Post-rheumatic and post-thyrotoxic heart disease	1 case
Cirrhosis of the liver	1 case
Myxedema	1 case
No diagnosis	1 case

D. Laboratory and Physical Findings:

Edema	13 cases
Urinary albumen 3 plus or more	12 cases
Hypertension	12 cases
Normal blood pressure	9 cases
Enlarged liver	8 cases
Urinary sp. gr. 1.028 or less	8 cases
Pulmonary congestion	8 cases
Cardiac enlargement	7 cases
Cardiac arrhythmias	7 cases
Ascites	7 cases
Leukocytosis	6 cases
Secondary anemia	5 cases
Total plasma proteins less than 5 gms. per 100 cc.	5 cases
Blood urea nitrogen 20 mg. or more	4 cases
Hydrothorax	4 cases
Myocardical infarction	3 cases
Oliguria	3 cases
Dyspnea	2 cases
Cyanosis	2 cases
Angina pectoris	2 cases
Anasarca	2 cases
Polycythemia	1 case
No diagnosis	3 cases

E. Mercurial Diuretic Used Immediately Preceding Death:

Mercupurin	9 cases
Salyrgan	7 cases
Neptal	3 cases
Esidrone	2 cases
Salyrgan and Theophylline	2 cases
Neptal diluted to 10 c.c. with normal saline	1 case
Neptal diluted to 5 c.c. with distilled water	1 case
Neptal diluted to 2 c.c. with normal saline	1 case
Mersalyl diluted to 10 c.c. with normal saline	1 case

F. Amount of Mercurial Diuretic Used Immediately Preceding Death:

1 c.c.	4 cases
2 c.c.	18 cases
3 c.c.	1 case

From the Medical Service of the Newton D. Baker Veterans Administration Hospital.

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4 c.c. ---------- 2 cases
5 c.c. ---------- 1 case
Not reported ---------- 1 case

G. Route of Administration of Mercurial Diuretic Immediately Preceding Death:
Intravenous ---------- 26 cases
Not reported ---------- 1 case

H. Mercurial diuretics had been used prior to the dose immediately preceding death in 23 cases. Death occurred with the first injection of a mercurial diuretic in 4 cases.

I. Routes of Administration Previously Used:
Intravenous ---------- 19 cases
Intramuscular ---------- 2 cases
Rectal and intravenous ---------- 1 case
Not reported ---------- 2 cases

J. Previous Doses Used:
.3 to 1 c.c. ---------- 1 case
1 c.c. ---------- 7 cases
2 c.c. ---------- 10 cases
Not reported ---------- 1 case

K. Reactions Following Previous Mercurial Diuretic Therapy:
No previous reactions ---------- 12 cases
Previous ---------- 7 cases
Not reported ---------- 4 cases

L. Diuretic Response to Previous Mercurial Therapy:
Good ---------- 11 cases
Fair ---------- 3 cases
Poor ---------- 6 cases
Not reported ---------- 3 cases

M. Signs and Symptoms of the Fatal Reaction Which Immediately Followed the Administration of the Mercurial Diuretic:
Cyanosis ---------- 10 cases
Gasping ---------- 7 cases
Dyspnea ---------- 7 cases
Pulse not detected ---------- 7 cases
Collapse ---------- 5 cases
Convulsions ---------- 5 cases
Unconsciousness ---------- 5 cases
Pain in various locations ---------- 5 cases
Respiratory difficulty ---------- 4 cases
Ventricular fibrillation ---------- 3 cases
Irregularity of the heart ---------- 3 cases
Rapid heart action ---------- 3 cases
Heart not heard ---------- 3 cases
Vomiting ---------- 2 cases
Flushed face ---------- 2 cases
Extra systoles ---------- 1 case
Cardiac standstill ---------- 1 case
Slow beat ---------- 1 case
Bundle branch block ---------- 1 case
Spasm ---------- 1 case
"Jumping of the heart" ---------- 1 case
Cough ---------- 1 case
Not reported ---------- 1 case

N. Length of Time After the Administration of the Mercurial Diuretic Until the Onset of the Reaction:
Immediately ---------- 11 cases
Few seconds ---------- 1 case
One-half minute ---------- 2 cases
One minute ---------- 3 cases
Two minutes ---------- 7 cases
Few minutes ---------- 1 case
Five minutes ---------- 1 case
Not reported ---------- 1 case

O. Length of Time After the Administration of the Mercurial Diuretic Until Death:
Immediately ---------- 8 cases
Very quickly ---------- 1 case
One minute ---------- 1 case
Two minutes ---------- 3 cases
Two and one-half minutes ---------- 1 case
Three minutes ---------- 6 cases
Four minutes ---------- 1 case
Five minutes ---------- 2 cases
Few minutes ---------- 4 cases

P. Autopsy Reports Reveal:
No cause for immediate death ---------- 14 cases
No autopsy report ---------- 13 cases

COMMENT

It is a fact that death does sometimes occur immediately following the use of a mercurial diuretic, and such deaths do not bear any definite relationship to the sex nor the age of the patient.

From the clinical diagnoses it is noted, as one would expect, that the patient had either heart disease or kidney disease, associated with, or complicated by, other conditions, which figures can have little or no meaning in that the total number of like cases which have received mercurial diuretics not followed by immediate death is not known.

While it is a fact that 9 of the deaths occurred following the use of mercupurin and 7 of the deaths occurred following the use of salyrgan, no one knows the relative incidence of the use of the va-

rious mercurial diuretics; therefore, these facts can be of no value.

It may be of interest to note that death occurred in 4 cases following the use of diluted mercurial diuretics.

Of the 27 cases reported, more than 1 c.c. of the drug was used in 21 cases immediately preceding death, and in 1 case the amount of the drug used at this time was not reported.

To be noted is the fact that 26 deaths followed the intravenous route of administration. (In 1 case the route of administration was not reported). However, no figures are available which would enable one to say what percentage of mercurial diuretics are given by this, and by other routes.

From the laboratory and physical findings that have been reported in the literature concerning these cases, no definite impression can be reached since it is to be noted that in 3 cases no such report was made and in 19 cases pertinent data were lacking.

The fact that 4 deaths occurred in persons who had never before received mercurial diuretic therapy would tend to make one question the theory that death in such cases may be due to an acquired sensitivity to the drug.

Of the 23 persons who had previously received this type of therapy, 2 had not previously received it by the intravenous route, thus bringing to 6 the total number of cases who died immediately following the first intravenous administration of the drug. To be noted also is the fact that of the 27 deaths reported, only 10 had previously received as large a dose as 2 c.c.

Seven of the 23 cases which had previously received mercurial diuretic therapy are reported to have had reactions of various forms following its administration, upon one or more occasion. It may also be noted here that only 11 persons in this series of cases had previously experienced a good diuretic response following the administration of the drug.

In 24 instances the reaction immediately following the administration of the drug was accompanied by signs and/or symptoms referable to abnormal heart action, which may tend to support the theory that sudden death following the use of mercurial diuretics may be due to rhythmic disturbances of the heart, such as ventricular tachycardia, ventricular flutter and ventricular fibrillation.

It is shown that the interval between the time of the administration of the drug until the onset of the reaction varied from one-half to 5 minutes, with 1 case reported as a few minutes and 1 not reported; also that the interval between the time of the administration of the drug until death varied from immediate to as long as 5 minutes, with 1 case reported as a few minutes and 1 not reported. While these facts may not materially add to the idea that death in such cases is the result of a disturbance in cardiac rhythm, they likewise do not detract from that view point.

Autopsy reports were available in 14 of the 27 cases, and in no report was a cause for sudden death suggested.

While no definite conclusions can be drawn from the study, the following suggestions may be in order:

1. That the intravenous route of administration be omitted when satisfactory diuresis can be obtained by other routes;

2. That the smallest dose of a mercurial diuretic which will produce the desired response is the dose of choice;

3. And, particularly, to avoid the intravenous route of administration, whenever practical, in those persons who have previously experienced undesirable reactions following the same.

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Children and Tuberculosis.

Scientific evidence does not justify the belief that children born of tuberculous parents have a hereditary susceptibility to the disease, says a medical consultant in *The Journal of the American Medical Association* (May 14th issue).

The theory that the child who has nontuberculous ancestry is more susceptible because of the absence of inherited immunity is also untenable, he emphasizes. Children of tuberculous mothers or fathers do contract more tuberculosis than those of the general population if they remain in contact with their parents, the consultant explains. Children of tuberculous parents who do not have contact with the parents after birth but who at some subsequent time are exposed to contagion do not contract more primary tuberculosis than children under the same circumstances of parents not having tuberculosis. Children of tuberculous parents who subsequently have primary lesions or tuberculosis are not more likely to have the acute and chronic reinfection forms of the disease than are those from homes where there is no tuberculosis.

The belief that suscepibility to tuberculosis is inherited from parents having the disease was so firmly implanted in the minds of many people during the Middle Ages that it has been carried down to the present day, despite overwhelming evidence that the disease is caused by a microbe and is therefore contagious, and the total lack of scientific evidence for the inheritance theory, the consultant says, adding:

"The entire problem resolves itself into one of infection with tubercle bacilli, which usually occurs after birth. All children have an effective defense mechanism against the first invasion of this organism. However, this is not adequate to destroy tubercle bacilli, and some of them subsequently have clinical tuberculosis, regardless of the presence or absence of this disease in their ancestors."

Treat Psoriasis With Undecylenic Acid.

Of 41 patients with psoriasis, a skin disease characterized by patches covered with silvery white scales, 27 showed improvement after treatment with undecylenic acid, a drug that resembles the natural oils of the skin, report two New York doctors.

Writing in the July 9th *Journal of the American Medical Association,* Drs. H. Harris Perlman and Irving L. Milberg of the Department of Dermatology and Syphilology, Post Graduate Medical School, New York University-Bellevue Medical Center, say:

"It appears possible that the administration of undecylenic acid had favorable influence on the course of the psoriasis in the improved group observed. Much further investigation will be needed before definite conclusions can be drawn."

Twelve patients were classified by the doctors as "unequivocally improved," and 15 as "somewhat improved." Ten patients showed no change in symptoms from treatment with the drug, and three had distinct aggravation of the disease. Seven of eight patients with psoriatic joint disease noted relief from pain.

The drug was given by mouth and caused no serious or lasting toxic effects. Mild gastrointestinal disturbances occurred, but in only one instance did these interfere with the continuation of treatment. Many of the patients had skin lesions that had not responded to other forms of treatment.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for June 1949 as compared with the same month in 1948, and for the period of January through June 1949 compared with the same period in 1948, is as follows:

	June 1949	June 1948	Jan.-June 1949	Jan.-June 1948
Typhoid and paratyphoid	9	8	40	61
Diarrhea and dysentery	231	259	1,511	1,652
Measles	1,643	1,301	20,470	5,493
Scarlet fever	43	55	400	562
Diphtheria	11	19	72	118
Poliomyelitis	1	10	11	19
Meningitis	6	6	52	52
Undulant	4	8	29	47
Rocky Mountain spotted fever	19	17	30	22
Tularemia	5	5	13	29

VENEREAL DISEASE CONSULTATION SERVICE

Through a project sponsored jointly by the State Health Department and the Medical College of Virginia diagnostic and consultative facilities are available to Virginia physicians for patients with complicated "problem" cases of venereal disease. This service is conducted in the Out-Patient Department of the Medical College of Virginia under the supervision of the consultant, Dr. Frank W. Reynolds.

The facilities of the Venereal Disease Consultation Service may be utilized by any physician in the State who desires a complete diagnostic and consultative evaluation. This survey and evaluation will include: history, physical examination, serologic tests for syphilis, examination of the cerebrospinal fluid, and such additional laboratory examinations and special consultations as may be necessary to evaluate the case. The patient then will be returned to the referring physician, who will be sent a complete report of the examinations, together with specific and detailed recommendations for future management.

The service will be provided free of charge. It is emphasized, however, that the service does not include hospitalization or treatment. The patient, in addition, must arrange transportation and living costs while being examined (one to two days).

Diagnostic service will be available upon request to physicians on an appointment basis. Request forms may be procured from County Health Departments, the Venereal Disease Section of the State Health Department and the Venereal Disease Consultation Service of the Medical College of Virginia.

The Venereal Disease Consultation Service which was organized in May 1949 is now in full operation. Patients for diagnostic and consultation surveys have been referred from local health units and from private practitioners. Complete reports have been sent to the referring physician, together with specific recommendations for the future management of the case. Pertinent references to the medical literature and reprints have been enclosed whenever it seemed to be desirable to do so.

Suggestions, comments and criticisms designed to make this service of maximum usefulness to the physicians of the State will be welcomed.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Extension of Hospital Facilities.

One of the major concerns of the Virginia Council on Health and Medical Care is a plan for more hospital beds and health center expansion.

According to Report No. 6 issued in June 1949 by the Virginia Council on Health and Medical Care, the program is expanding under funds provided by the Hill-Burton Act. Seventeen localities have raised funds to match those appropriated by the 1948 General Assembly of Virginia for this purpose.

However the Virginia Hospital Survey discloses the need for additional expansion and six other localities are on the A-priority list while many are on the B-priority list.

Hospital and health center construction will also be needed in other areas. Localities most in need of these facilities are frequently unable to raise their part of the funds thus necessitating additional state funds.

It is said that about $4,000,000 of federal funds will be available in the next two years when funds are available in Virginia to match these funds.

Virginia Pharmacists Convention.

Attending the Virginia Pharmaceutical Association convention in Roanoke in June, 1949, were Dr. Harold W. Miller, Woodstock, Virginia, President of the Northern Virginia Medical Society, as a representative of the Medical Society of Virginia, and Henry S. Johnson, Director of Public Relations.

Both were given prominent places on the program and it is expected that Dr. Miller's paper will appear in an early issue of the Virginia Pharmacists' monthly publication ("*The Virginia Pharmacist*").

Senators and Congressmen Contacted.

Telegrams were sent on June 23rd and June 24th from the Public Relations Department of the Medical Society of Virginia to our representation in Washington urging their effort in the defeat of House Bills 2892 and 2893, and also Senate Bill 1411 (Section C).

House Bill 2892 proposes the inclusion of weekly payments in the event of disability and House Bill 2893 proposes bringing self-employed persons under social security now covering employees.

Senate Bill 1411 (Section C) proposes free medical care to all school children from the age of five to seventeen years, regardless of financial status.

Your Public Relations Committee feels that the members of the Society should have this informtion in order that the local societies and members may follow through with additional communications in opposition to these Bills.

Also a letter was sent to the Council and to members of the District Council informing them of this action.

Survey of the Medically Indigent.

A survey to collect pertinent data concerning the problem of adequate care for the medically indigent of Smyth County was recently initiated by the Smyth County Medical Society.

A committee of six doctors headed by Dr. R. C. Potter conducted the survey and presented its tabulated results and recommendations to the Society. A final analysis of the figures showed that Smyth County was not out of line in comparison with other counties in providing medical aid for indigents.

With this in mind a series of resolutions were submitted to the Smyth County Medical Society for adoption which if accepted, they believe, would serve as a working plan for the improvement of the medical care of the medically indigent.

Pharmacists Pass Resolution.

The Virginia Pharmaceutical Association at its 68th annual convention held at Roanoke, Virginia,

in June passed a resolution opposing any form of socialized medicine or COMPULSORY health insurance.

In passing this resolution their name was added to the steadily growing list of prominent organizations in the state that have gone on record in opposition to government controlled medicine.

Thus another strong force is willing to stand up and be counted and offer its services in the preservation of our present system of medical care and individual enterprise in America.

Local medical societies that have advised this office that they have adopted a resolution opposing compulsory health insurance include: Albemarle, Lynchburg, Loudoun, Norfolk and Williamsburg-James City.

Other organizations that have adopted similar resolutions include: The State Federation of Business and Professional Women's Club, The Culpeper Lions Club, The Life Insurers Conference, The Norfolk Association of Commerce, The Virginia Association of Insurance Agents, The Virginia Baptist Hospital and The Virginia State Chamber of Commerce.

CORRESPONDENCE

Zollikoferia—Floral Eponym.

TO THE EDITOR:

Having read with interest in the "VIRGINIA MEDICAL MONTHLY" (June 1949, page 274) the note about the "Floral Eponym" *Zollikoferia,* I looked up the subject in Meyer's encyclopaedia published in 1858.

It appears that Blake's information about Zollikofer's nationality is correct, but that Pritzel's statement about his legal activity should be rectified by indicating that Zollikofer was a physician. According to Meyer De Candolle dedicated the floral eponym: "Zollikoferia" to two genera of the compositae Cichoriaceae, because Zollikofer published in 1928 a tentative alpine flora of Switzerland.

I take the liberty of submitting these data, because I am interested in botany and history, although professionally I am a dermatologist.

KARL G. ZWICK, M.D.

Cincinnati, Ohio
June 18, 1949

EDITORIALS

Walter Reed (1851-1902)

THE Medical Society of Virginia owns a story and a half hut with the high sounding name of "Belroi". It is located on the outskirts of Gloucester Court House and is reverently cared for by a Committee composed of Drs. J. W. Smith, J. D. Clements and Clarence Porter Jones and the ladies of the Mid-Tidewater Auxiliary. In 1851 this hut was the temporary Methodist parsonage and it was here on September 13th that Walter Reed was born, the youngest of six children. His father was the Rev. Lemuel Reed, a North Carolinian of English descent and his mother was Pharaba White, a daughter of a North Carolina planter, who also came of a good English family.

A circuit rider and a physician have much in common in the way of hardships and devotion to duty, and so the future conqueror of yellow fever began life in almost a medical atmosphere. One of the older brothers went into the Methodist ministry and was for four years our pastor. He was lovingly called "One arm Reed" because one of his arms was shot away at the Battle of Sharpsburg. This man's simple faith and manliness endeared him to all with whom he came in contact. These qualities were characteristic of the family.

The Rev. Lemuel Reed held various charges in the Virginia Conference. When Walter was six years old he began his schooling with Mrs. Booker in Farmville. When he was fifteen years of age, his family was sent to Charlottesville and Walter entered a private school kept by Mr. Abbott. At sixteen he entered the University of Virginia. In 1869 he graduated in medicine after a single course of nine months. He was the youngest medical graduate in the history of the University and he ranked third in his class. He then went to New York and matriculated at the Bellevue Hospital Medical College a year later. He served as an interne in several hospitals in New York and Brooklyn. Next he became an inspector for the Brooklyn Health Department. While he was in Brooklyn one of the Blincoe boys thought it was a good time for him to see New York. Arriving in New York before going to Brooklyn, he stopped in a saloon kept by John L. Sullivan for a glass of beer. When he got to Brooklyn he said, "Uncle Walter, shake the hand that shook the hand of John L. Sullivan" and with a twinkle in his eye, Uncle Walter replied, "Look in the eyes that have looked in the eyes of Buffalo Bill."

His first assignment as an Army Surgeon was in Arizona and for eighteen years with three intermissions he was stationed on what was then a frontier. There he learned the ways of the Army and also practiced medicine on the nearby settlers and Indians. In 1881 when he was stationed for a short time at Fort McHenry, Baltimore, he studied physiology at the Johns Hopkins University. In 1890-91 he was again stationed in Baltimore as examiner of records. By this time the Johns Hopkins Hospital had started and Walter Reed put in practically all his time in studying the new science of bacteriology under Dr. Welch in the department of pathology. Here he soon made a place for himself among his fellow workers and it was recognized that he had unusual aptitude for the work he had undertaken. In 1891 he was sent to Dakota but was recalled in 1893 and assigned as curator of the Army Medical Museum and professor of bacteriology and clinical microscopy in the newly established Army Medical School.

From this point his career is well known throughout the world. When typhoid fever broke out in the military camps in the Spanish American War, he headed a commis-

sion of investigation. The outcome was two large authoritative volumes on the epidemiology of typhoid fever. The practical outcome was a knowledge of flies in the spread of the disease and the revision of the Army regulations giving the medical officers authority in sanitary matters. Important as was the work of the typhoid commission, it was only preliminary to the great work of the United States Army Special Yellow Fever Board of which he was the head.

The story of the conquest of yellow fever has been told many times by many people. None has told it better than Dr. Philip S. Hench of the Mayo Clinic. Furthermore Dr. Hench has discovered new details in the story and has corrected a mistake of 35 years standing in the location of Camp Lazear. The work of the Yellow Fever Board lasted eight months and three months later Gorgas had freed Havana from the disease for the first time in 150 years.

The story of the conquest of yellow fever is especially dear to the American heart. From every aspect it is typically American. In the first place, it was a brilliant acchievement of American medicine. Everyone who had made advancement in the mosquito theory—Nott, Carter, Finlay, Agramonte, Lazear and Reed were Americans (including Cuba). In the second place, it exemplified the extraordinary bravery of the American soldier who voluntarily and without pay, submitted to the necessary experiments. Thirdly, this essentially American plague had been endemic in the West Indies whence it periodically invaded the cities of the Atlantic Seaboard and the Gulf States, paralyzing commerce and striking terror into the hearts of the people; and fourthly, the control of this scourge and its twin, malaria, enabled American engineers to dig the Panama Canal where French engineers had previously failed.

The Atlantic City Meeting of the A.M.A.

THE Annual Meeting of the American Medical Association is the occasion of the gathering together of countless doctors from all over the world. Groups that could not otherwise attract a quorum arrange their meetings at or near this time in order to have a successful meeting. It seemed to us that there were more such gatherings this year than usual. Certainly we had more difficulty in getting them all in. There should be some coordinating agency through which these meetings could clear, such as is done with debutante parties in most cities. The mellow sunshine, balmy breezes and peaceful ocean were other distractions. It was difficult to resist the lure of the boardwalk and partake of the strenuous mental fare offered in the Convention Hall and the various sectional meeting places.

No one person could hope to give an adequate report of the arduous week. We understand that the House of Delegates was unusually busy. The fifth annual conference of presidents and other officers of state medical associations had a most excellent program. Dr. William Alan Richardson, the editor of *Medical Economics,* gave a comprehensive report of the British National Health Service. He recently spent a month in England to see how the plan is working. It is tremendously expensive and is now costing 10 per cent of the entire government budget. One old lady with whom he talked blamed this country for, she said, if it had not been for the Marshall Plan, England could never have put the health plan over. The plan is growing less popular with the people and the term "four-minute" medicine is frequently heard. Dr. George Lull spoke on the importance of the state societies. He frequently gets letters suggesting that he tell such and such state society to do so and so. The shoe is on the other foot, he said, the state society tells him what to do.

The highlight of the conference was the address of Mr. Cecil Palmer of London. He said that the British Minister of Health manoeuvered the British doctors from their strong position of opposition to the compulsory health plan on moral grounds, for a discussion on an economic basis. Many of the doctors are now finding that they are worse off financially and are having to go into their capital savings to make both ends meet. He also spoke of the long queues in the "surgeries" and the lack of hospital beds for those who really needed hospital treatment. The plan is an idealistic one, he said, that can only work in Heaven where it is not wanted or in Hell where they have it already. As to the privacy of the patients' communications with the doctor which was promised, that no longer exists. Three weeks after the plan went into effect there was issued "statutory instrument" No. 506 to the effect that the diagnosis and treatment of each case must be filled out in triplicate. One copy goes to the local committee and the second copy to the district committee. He explained that a statutory instrument was a ruling of a Minister of the Crown which had all the force of law. It was never debated in the House of Commons and there was no appeal from it to the court.

The American Society for the Study of Sterility had interesting sessions. Much was said here and in the sections on obstetrics and gynecology on the value of pregnandiol determination and the basal temperature curve. M. R. Thompson, a Ph.D. from Connecticut, spoke on the nutritional requirements in human reproduction, emphasizing the importance of natural vitamin B. When asked how he explained the fertility in Asiatic countries where most of the people suffer from chronic malnutrition, he replied that he did not know anything about those countries.

The general scientific meetings were well attended. In fact it was difficult to get close enough to see what the speakers looked like. However, the acoustics were perfect. Perrin Long was enthusiastic about the new antibiotics, aureomycin and chloromycetin. They seem to have no serious toxic effects, and being able to administer them by mouth, made their use in home therapy possible.

The University of Pennsylvania School of Medicine television program in color, sponsored by Smith, Kline and French, attracted great crowds. Although it was shown in two large rooms on the third floor, standing room was at a premium. The scientific and commercial exhibits filled the great convention hall. They were well patronized. Many had long queues before them. The Philadelphia Pathological Society demonstrated fresh specimens from the operating rooms of the Philadelphia and Atlantic City Hospitals. The Inaugural Meeting on Tuesday evening was the only part of the convention we saw that was not well attended. The ballroom of the Convention Hall was scarcely more than half filled. Besides the presidential address, there was one on Dr. Frank B. Wynn, the Founder of the Scientific Exhibits of the A.M.A. and one by Brig. Gen. Crawford F. Sams on Medicine in Japan. We were surprised to learn how backward the Japanese were in medical matters. They had the highest tuberculosis death rate in the world and more second rate doctors.

SOCIETIES

The Hanover County Medical Society

Met in the Randolph-Macon College Administration building in Ashland on June 21 with Dr. A. E. Murray, President, presiding. The guest speaker was Dr. Guy W. Horsley, Councillor for the District who gave a very interesting talk on the government's proposed pre-paid medical plan. He discussed briefly the Virginia Medical Practice Act and gave some of his observations of the American Medical Association meeting in Atlantic City. Dr. M. Pierce Rucker, President of the Medical Society of Virginia and Mr. Henry S. Johnson, Director of Public Relations of the State Society were guests at this meeting and both gave short talks.

The next meeting will be held at 8:30 P. M. on the first Tuesday in September.

JOHN D. HAMNER, JR.,
Secretary-Treasurer

The Wise County Medical Society

Enjoyed a fine Dutch Treat meal at Hotel Norton, Norton, on the evening of June 22nd, with seventeen members in attendance. An illustrated lecture on Pancreatitis was given by Dr. J. B. Floyd, an outstanding young surgeon from Lexington, Kentucky.

A strong resolution against socialized medicine was passed unanimously, and a speakers' group, composed of Drs. J. H. Hagy, J. D. Culbertson, G. T. Sutherland, W. B. Barton, J. J. Porter, and G. W. Botts, was selected. These will follow A.M.A. plans in an effort to have the people understand the hazards in the proposed legislation.

Dr. J. Robert Massie, St. Luke's Hospital, Richmond, will be the speaker at the next meeting on September 8th.

T. J. TUDOR, *Secretary*

The Williamsburg-James City County Medical Society

Met on June 17, at Williamsburg, with Dr. Joseph E. Barrett, President, in the chair.

After some discussion of a communication from Dr. John T. T. Hundley, State Education Chairman, the Secretary was instructed to write a letter to the appropriate Congressmen and Senators stating the Society's opposition to the compulsory Health Insurance bills now pending in Congress.

Mr. Rawls Byrd, Superintendent of the Schools in Williamsburg, Mr. Clarence Jennings, Superintendent of Schools for James City, New Kent, and Charles City Counties, spoke to the Society. They described their respective Health programs. After some discussion of the health problems of the schools and the relationships of the society members to this program, it was moved by Dr. Stokes and seconded by Dr. Keppel that the president should appoint an advisory committee to consult with the school officials as to their health programs.

GRANVILLE L. JONES, *Secretary*

The Tazewell County Medical Society

Met for its regular bi-monthly dinner meeting on June 22nd, at the Oasis Restaurant, Tazewell. There were fifteen members and four guests present.

Dr. John D. Winebrenner, Director Medical Care, United Mine Workers, District 28, Johnson City, Tennessee, conducted a Question and Answer Hour concerning the medical set up of the United Mine Workers Health and Retirement Fund.

The next meeting of the society will be held at the Tazewell Country Club on August 17th. The members of the Buchanan—Dickenson Medical Society, the Russell County Medical Society, and the Mercer County Medical Society, are to be guests.

MARY ELIZABETH JOHNSTON, *Secretary*

NEWS

The Chamberlin Hotel—Our Meeting Place.

Here is a picture of the Chamberlin Hotel at Old Point Comfort, Virginia, which will be the scene of the annual meeting of the Medical Society of Virginia, October 9 to 12. The Chamberlin is situated on the grounds of Fort Monroe. In case of interference with the fortifications the owners must pull down the hotel at their own expense if requested by the military authorities. This clause in the contract with the government has been invoked twice in the past, once during the Civil War and again during World War II when partial dismantlings were ordered. It is further stipulated that the owners cannot sell the hotel without permission from the commanding officer of Fort Monbus after whom the nearby town of Phoebus is named. Under his management the Hygeia Hotel became renowned all up and down the Atlantic seaboard for its excellent service and Old Southern atmosphere. It was "a place where diplomats and government officials mingled with the elite of Baltimore, Philadelphia, Richmond, and the Deep South." In 1881 when our Medical Society of Virginia met there the Hygeia Hotel was in its heyday.

After the death of Phoebus, the Hygeia was merged with the newly built Chamberlin Hotel opened in 1894. This building which is recalled as the "Old Chamberlin" was destroyed by fire in 1920. It is enshrined in the memory of many of the older residents as a center of Peninsula social

roe. How did it happen that a gay seaside pleasure resort took up such a precarious existence on the soil of the grim and exacting old fort?

The story goes back 129 years when one William Armistead opened a hotel for the workmen who were building Fort Monroe. The Hygeia Hotel, as Armistead called his inn, catered for some years to workmen and civilian employees of the fort. In 1832 the Indian chief Black Hawk and several of his braves were imprisoned at the fort following the Black Hawk War in Illinois. Visitors who flocked from far and wide to view the fierce redskins put up at the Hygeia Hotel. In this way the Hygeia became a tourist hotel. During the Civil War part of the hotel had to be torn down because it interfered with the range of the guns of Fort Monroe. The wing left standing was used for a hospital. After the war the Hygeia was rebuilt by Messrs. Clark and Wilson, but it proved unprofitable and eventually it came into the hands of Harrison Phoelife in the 1890's and early 1900's. The present structure often called the "New Chamberlin" was opened in 1928 and has been in continuous operation ever since. The Chamberlin ("Old" and "New") has been host to such varied celebrities as Franklin D. Roosevelt, Herbert Hoover, Woodrow Wilson, William Howard Taft, General Eisenhower, Cornelius Vanderbilt, Billie Burke, Rex Beach, Vernon Castle and Mabel Normand. During World War II it was used by the Navy to house officers and their families. Shortly after the outbreak of hostilities the owners were required to demolish the imposing tower on the Chamberlin's roof because it afforded a landmark for prowling Nazi submarines. This was the second time that the demolition clause in the contract had to be invoked for military reasons.

The present Chamberlin Hotel is the inheritor of 129 years of hotel tradition on Old Point Comfort: William Armistead's modest inn of 1820; Harri-

son Phoebus' elegant post-bellum pleasure resort; the palatial "Old Chamberlin" of the gay 90's. But according to the contract given by the Government to William Armistead and passed on to successive owners, the existence of the hotel hangs by the slender thread of military expediency. The hotel may stay only if it does not get in the way of the fort.

There has been a fort on Old Point Comfort ever since the coming of the first Englishmen. Fort Monroe is the third in a series of forts. The first was Fort Algernourne constructed in 1609 by the Jamestown settlers to protect against raids by Spaniards. In 1729 this fort was replaced by Fort George which despite its very solid construction was blown away by a disastrous hurricane described by the old chronicler as the "great gust" of 1749. Construction of the present fort was begun in 1819 and completed in 1847. It was named after James Monroe, president of the United States from 1816 to 1824, whose administration has gone down in history as "The Era of Good Feeling." Fort Monroe contains the only fortress in the country surrounded by a water-filled moat. (A fortress is a fort within a fort.) Entrance into the fortress is over a bridge as in medieval castles. The walls of the fortress contain chambers which were occupied by the garrison in bygone years. These chambers are known as the casemates. A historical marker calls attention to the casemate where Jefferson Davis was confined; also, a plaque has been placed by the United Daughters of the Confederacy commending a certain U. S. Army medical officer for kindness to Davis during his imprisonment at the fort. On the green inside the fortress is a charming Protestant chapel known as "The Church of the Centurion," where President and Mrs. Woodrow Wilson were fond of worshipping during their visits to Old Point Comfort.

The fortress is now obsolete, a historic relic, but the fort is active and modern. Fort Monroe is the headquarters of General Devers, Chief of the Army Ground Forces for the entire United States. His splendid dwelling is near the hotel. From the veranda of the Chamberlin one sees the fortified island of Rip Raps out in Chesapeake Bay officially known as Fort Wool after a general of the Mexican War of 1848. The garrison of this satellite fort leads a rather lonely life as the only communication with land is by boat.

Such is the romantic story of the Chamberlin Hotel, your meeting place. The medical profession of the Virginia Peninsula looks forward to greeting you in its spacious halls next October.

CHESTER D. BRADLEY

University of Virginia, School of Medicine.

At the commencement exercises of the University of Virginia, held in June, the following were awarded the degree of Doctor of Medicine and are listed with their hospital appointments:

UNIVERSITY OF VIRGINIA HOSPITAL, Charlottesville—Drs. Allan LeRoy Armstrong, Miami, Fla.; Donald Hugh Ferguson, Terre Haute, Ind.; Edward Halsell Fite, Jr., Muskogee, Okla.; Frank Imboden Hobbs, Lynchburg; Ira Clair Liebrand, Helena, Okla.; Michael Potter, Princeton, N. J.; Harvey Daniel Smallwood, Roanoke; and Harold Ray Yarbro, Jackson, Tenn.

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond—Dr. Spencer Pippen Bass, Jr., Tarboro, N. C.

GRADY MEMORIAL HOSPITAL, Atlanta, Ga.—Dr. Lundie Weathers Barlow, Jr., Richmond.

EPISCOPAL HOSPITAL, Philadelphia, Pa.— Dr. Francis Elwood Barrett, Coudersport, Pa.

JOHN SEALY HOSPITAL, Galveston, Tex.—Drs. Eugene Russell Bebeau, Schoolfield, and John David Varner, El Paso, Tex.

VIRGINIA MASON CLINIC, Seattle, Wash.—Drs. John Bayard Britton, Charlottesville, and George Edward Troxel, Baltimore, Md.

THE NEW YORK HOSPITAL, New York, N. Y.—Drs. William Upson Cawthon, Montgomery, Ala., and Donald Leslie Weeks, Jr., Richmond.

BAYAMON DISTRICT HOSPITAL, Puerto Rico—Dr. Thomas A. Cook-Garcia de Quevedo, Santurce, P. R.

SYRACUSE MEDICAL CENTER, Syracuse, N. Y.—Dr. Robert Vincent Crowder, Jr., Lynchburg.

U. S. PUBLIC HEALTH SERVICE, Staten Island, N. Y.—Drs. James Lovern Deadwyler, Elberton, Ga.; Trent Laviano, Long Island, N. Y.; Bridger Pearl Little, Jr., Chester, S. C.; and Robert Arthur Marks, Jr., Long Island, N. Y.

ST. LOUIS CITY HOSPITAL, St. Louis, Mo.—Dr. Patrick Salvatore Ferazzi, Bayonne, N. J.

MICHAEL REESE HOSPITAL, Chicago, Ill.—Dr. Robert Emery Gould, New York, N. Y.

CINCINNATI GENERAL HOSPITAL, Cincinnati, Ohio—

Drs. Campbell Harris, Jr., Richmond, and Ammon Walter Hoover, Harrisburg, Pa.

MILWAUKEE COUNTY HOSPITAL, Milwaukee, Wis.—Drs. James Edward Henney, Kohler, Wis.; Donald Robert Pierce, Beloit, Wis., and John Henry Russell, Tarrytown, N. Y.

SINAI HOSPITAL, Baltimore, Md.—Dr. Leon Edward Kassel, Baltimore, Md.

GERMANTOWN DISPENSARY & HOSPITAL, Philadelphia, Pa.—Dr. Thomas Allen Kirk, Jr., Roanoke.

ST. LUKE'S HOSPITAL, Chicago, Ill.—Drs. William Edgar Lawton, Jr., Mount Hope, W. Va., and Harry Baylor Taylor, Jr., Anking, China.

ST. LOUIS CITY HOSPITAL, St. Louis, Mo.—Dr. Miriam Lending, Charlottesville.

UNIVERSITY HOSPITAL, Ann Arbor, Mich.—Dr. Davis Craig Lucas, Blacksburg.

JACKSON MEMORIAL HOSPITAL, Miami, Fla.—Dr. Walter Ramon McCook, Key West, Fla.

WESLEY MEMORIAL HOSPITAL, Chicago, Ill.—Dr. Eugene Sheldon Mendelsohn, Chicago, Ill.

BELLEVUE HOSPITAL, New York, N. Y.—Dr. David Alan Mullon, Port Washington, N. Y.

BOSTON CITY HOSPITAL, Boston, Mass.—Dr. Joseph Allan Offen, Brookline, Mass.

TOURO INFIRMARY, New Orleans, La.—Dr. Harry Wampole Reinstine, Jr., Jacksonville, Fla.

COOK COUNTY HOSPITAL, Chicago, Ill.—Dr. Frank Raymond Richmond, Jr., Fort Madison, Ia.

CHARLOTTE MEMORIAL HOSPITAL, Charlotte, N. C.—Dr. Albert Vinson Rigsbee, Durham, N. C.

BROOKE GENERAL HOSPITAL, San Antonio, Tex.—Drs. John Alden Rogness, Madison, S. D., and Robert Ludwig Sundre, Duluth, Minn.

HOSPITAL OF UNIVERSITY OF IOWA, Iowa City, Ia.—Dr. John Chrysostom Rourke, New Orleans, La.

UNIVERSITY OF OREGON HOSPITAL AND CLINICS, Portland, Ore.—Dr. William Maurice Snook, Portland, Ore.

MT. SINAI HOSPITAL, New York, N. Y.—Dr. Martin Herman Sternstein, Newark, N. J.

WAYNE COUNTY GENERAL HOSPITAL, Detroit, Mich.—Drs. Francis Simon Sullivan, Cambridge, Mass., and Josephine Young Sullivan, Anderson, S. C.

MONTEFIORE HOSPITAL, New York, N. Y.—Dr. Marvin Melvin Thalenberg, New York, N. Y.

FITZSIMONS GENERAL HOSPITAL, Denver, Colo.—Dr. Douglas James Thompson, Charlottesville.

COLORADO GENERAL HOSPITAL, Denver, Colo.—Dr. John Marshall Vivian, Phoenix, Ariz.

U. S. PUBLIC HEALTH SERVICE, New Orleans, La.—Dr. Harry Gordon Walker, Charlottesville.

HERMANN HOSPITAL, Houston, Tex.—Dr. Henry Harrison Wilson, Jr., Radford.

Dr. Charles Franklin Tate, Newport News, is also a member of this graduating class.

American Medical Association.

At the annual meeting of this Association, held in Atlantic City, June 6-10, there was a registered attendance of 13,221 physicians and 14,671 guests. Dr. Ernest E. Irons, Chicago, succeeded to the presidency, and the following officers were elected: president-elect, Dr. Elmer L. Henderson, Louisville, Ky.; vice-president, Dr. James Francis Norton, Jersey City; Secretary, Dr. George F. Lull, Chicago (re-elected); treasurer, Dr. Josiah J. Moore, Chicago (re-elected); speaker of the House of Delegates, Dr. F. F. Borzell, Philadelphia; and vice-speaker, Dr. James R. Reuling, Bayside, N. Y.

Dr. Seale Harris, Birmingham, received the A.M.A.'s 1949 Distinguished Service Medal.

The next interim session of the Association will be held in Washington, D. C., December 6-9, and the next annual session will be in San Francisco, California.

Dr. Reese Celebrates Fifty Years of Practice.

On May 11th, Dr. Emmett F. Reese, Jr., Sebrell, observed his fiftieth anniversary as a physician by giving a steak dinner to the doctors of the county. Those present to congratulate him were Drs. W. T. McLemore and W. F. Daughtry, Jr., Courtland; Dr. J. M. Bland, Boykins; Drs. Ashley P. Cutchin, J. C. Rawls, C. F. Gryte, T. Addison Morgan, W. D. Varner, Henry L. Gardner, Franklin L. Angell and Janet Jacobson, Franklin. Dr. McLemore was a classmate of Dr. Reese at the University College of Medicine.

Dr. Emmett F. Reese, III,

Has returned to this country after service with the U. S. Army in Japan and has opened his office at the Raiford Memorial Hospital in Franklin, where he will be engaged in general practice. He is a graduate in medicine of the University of Virginia, class of 1946.

New Annex to De Paul Sanitarium.

Construction has been started on an ultra-modern,

five story annex to De Paul Sanitarium in Norfolk and is expected to be completed by the end of 1950. Rosary Clinic, as the new building will be named, will afford the latest in modern hospital facilities. It will add 100 beds to the hospital and is so designed that each floor is a complete unit. There will be fifteen special therapeutic recovery rooms for the acutely ill, each to be soundproofed and air-conditioned. A conference room is provided in each unit for the convenience of the faculty and medical staff. The fifth floor is to be the recreation area with a capacity of two hundred. There will be a corrective gymnasium and two roof gardens for sun baths.

American College of Surgeons.

The Clinical Congress of the College will be exceptionally world-wide in character when it convenes in Chicago, October 17-23, because it will include the Sixth Inter-American Congress of Surgery and because many delegates from the 13th Congress of the International Society of Surgery, which meets in New Orleans the previous week, will also attend. Dr. Frederick A. Coller of Ann Arbor, Michigan, who will be inducted as President of the American College of Surgeons at this meeting, is President of the Sixth Inter-American Congress of Surgery. This will be the first time that the latter has met in the United States.

Dr. John B. Parsons,

A Fellow in Surgical Pathology at the University of Virginia, has been awarded a clinical fellowship by the American Cancer Society. He is one of forty doctors who will receive specialized training in cancer through these fellowships.

Richmond Physician Honored by Greeks.

Dr. Oswald F. Hedley, a native of Danville, has been made an honorary citizen of the city of Lamia, Greece, in recognition of his work in the field of public health in that area. He is director of the public health division of the Economic Cooperation Administration's mission in Greece. Dr. Hedley had lived for sometime in Richmond and received his medical degree from the Medical College of Virginia. He entered the U. S. Public Health Service immediately upon graduation.

The International College of Surgeons,

United States Chapter, will hold its fourteenth annual assembly and convocation in Atlantic City, New Jersey, November 7-12. All doctors of medicine interested in surgery and its advancement are invited to attend, and can obtain a program upon request to Arnold S. Jackson, M.D., Secretary, Jackson Clinic, Madison 4, Wisconsin. For hotel reservations, contact E. D. Parrish, Haddon Hall, Atlantic City, New Jersey.

Dr. Charles T. Garcia,

Formerly of Cape Charles, has joined the regular army with the rank of Major and is Flight Surgeon at Langley Air Force Base, Hampton.

Dr. Walter R. Johnson,

Recently of Richmond, is making his home in Garrisonville, Stafford County. On July 1st, he retired from the U. S. Navy after nearly thirty-one years of service.

Dr. Nathaniel Ewell, Jr.,

Recently of Charlottesville, has located in South Boston where he is affiliated with Drs. William Watkins and Pat Driscoll in the general practice of medicine.

Dr. Oliver F. Blankingship,

Richmond, is in Bay Pines, Florida, for an indefinite stay.

Dr. M. L. White, Jr.,

Has opened an office at 817 First Huntington National Bank Building, Huntington, West Virginia, where he will practice thoracic surgery and related endoscopy. He resigned as assistant professor of surgery at the University of Virginia on June 1st.

Correction—"Intrathoracic Hour-Glass Ganglioneuroma".

Dr. H. Clarkson Meredith has reported an error in his article on "Intrathoracic Hour-Glass Ganglioneuroma" published in the June issue of the MONTHLY. On page 289 in Figure I, the pictures are in reversed order, the one on the right being after and the one on the left before surgical removal.

American College of Chest Physicians.

At the fifteenth annual meeting of the College, held in Atlantic City, June 2-5, Dr. Dean B. Cole, Richmond, was re-elected Regent for a term of three years.

Dr. E. C. Harper, Richmond, is the Governor of the College for the State of Virginia.

The Virginia Chapter of the College held its annual meeting in Richmond March 1st and elected the following officers: President, Dr. E. C. Drash,

Charlottesville; vice-president, Dr. Kinloch Nelson, Richmond; and secretary-treasurer, Dr. C. W. Scott, Burkeville.

Medical Society of Virginia—1881 Meeting.

Thirty-five doctors registered for the meeting of the Medical Society of Virginia at the Hygeia Hotel, Old Point Comfort, in 1881, according to Dr. and Mrs. Chester D. Bradley of Newport News. The Bradleys recently studied the 1881 Transactions in our office to obtain material for a historical exhibit they are preparing for the forthcoming meeting of the Medical Society of Virginia. Judged by our modern standards 35 is a mere handful compared to the crowd which is expected at the Hotel Chamberlin, Old Point Comfort, in October. However, the Bradleys point out that in 1881 there were fewer doctors in Virginia, that only a portion of them belonged to the Medical Society of Virginia, and that travel in those days was by train and boat only. In fact there was no direct rail line to Old Point Comfort in 1881.

Here are the names of our predecessors in Virginia medicine who attended the Old Point Comfort meeting of 1881: J. A. Alexander, Broadway; L. Ashton, Falmouth; Harvey Black, Williamsburg; Kent Black, Blacksburg; James T. Boutelle, Hampton; Charles Brittan, Richmond; Bedford Brown, Alexandria; C. A. Bryce, Richmond; J. E. Chancellor, University; C. C. Conway, Rapidan; F. B. Cunningham, Richmond; E. A. Drewry, Drewrysville; Landon B. Edwards, Richmond; J. M. Estill, Tazewell; W. B. Gray, Richmond; S. K. Jackson, Norfolk; M. L. James, Richmond; Meade C. Kemper, Goshen; Henry Latham, Lynchburg; O. F. Manson, Richmond; G. W. O. Maupin, Portsmouth; Hunter H. McGuire, Richmond; S. B. Morrison, Natural Bridge; H. M. Nash, Norfolk; R. H. Parker, Portsmouth; D. C. Pharr, McDonald; W. L. Robinson, Danville; W. T. Sutton, Norfolk; T. James Taylor, Walton; Z. G. Walker, Brownsburg; W. R. Winchester, Leesburg; Isaac White, Shawsville; Joseph A. White, Richmond, and George William Semple, Hampton.

The Newport News daily papers are showing great interest in our October meeting. A reporter who is preparing a feature story about the Medical Society of Virginia asked if any descendants of the men of 1881 might be expected to attend our 1949 meeting. Dr. Bradley hastily consulted Dr. Wyndham B. Blanton of Richmond, the distinguished medical historian. Dr. Blanton was able to state that the following men of 1881 are represented by descendants in the medical profession today: Hunter H. McGuire by Hunter McGuire, Richmond and William P. McGuire, Winchester; O. F. Manson by R. Campbell Manson, Richmond; Landon B. Edwards by Charles M. Edwards, Richmond; E. A. Drewry by Patrick H. Drewry, Jr., Richmond; S. B. Morrison by J. Morrison Hutchinson, Richmond; C. C. Conway has no medical descendants but the following are closely related to him: St. George Grinnan, William Grinnan, Wallace Blanton, Wyndham B. Blanton, all of Richmond. In addition, Miss Agnes V. Edwards, Secretary of the Medical Society of Virginia, is a daughter of Landon B. Edwards, who was for many years editor of the VIRGINIA MEDICAL MONTHLY.

C. D. B.

Dr. W. Lowndes Peple, Jr.

Class of '41, Medical College of Virginia, is located in Richmond where he is on the surgical staff of St. Luke's Hospital.

Dr. Holmes Named City Health Director.

Dr. Edward Marion Holmes, Jr., has been named Richmond City Health Director, effective August 16th. He will succeed Dr. C. Howe Eller who resigned to accept a position in Louisville. Dr. Holmes has been "executive officer" to Dr. Eller since June 1947 and has helped with a complete reorganization of the department.

Doctors Hold Civic Offices.

Dr. Percy Harris, Scottsville, was recently re-elected as Mayor to serve his fourth term.

Dr. Mary E. Johnston, Tazewell, has been elected to the Town Council.

Dr. F. I. Steele, Windsor, has also been re-elected a member of the Town Council.

Dr. Nancy B. King,

Richmond, recently received the Degree of Master of Science in Pediatrics from the University of Minnesota. She is a graduate of the Medical College of Virginia, class of 1945, and for the past three years has been a Fellow in pediatrics at the Mayo Clinic, Rochester. Dr. King plans to locate in Sandston.

Dr. Conrad L. Gossels,

Recently of Mount Jackson is now located at 2808 South Randolph Street (Shirlington), Arlington.

Dr. Charles E. Fiman

Has been named senior physician at Western State Hospital, Staunton. He is a graduate of the College of Medical Evangelists of California and has recently been psychiatrist at State Hospitals in New Jersey, North Carolina and Colorado.

Doctor Wanted

To take over retiring doctor's well equipped and furnished four-room office, including x-ray, etc. Well established practice in eastern Virginia, ten miles from modern hospital. Will sell complete practice or individual items. Contact Savage Insurance Agency, Williamsburg, Virginia. (*Adv.*)

OBITUARIES

Dr. Walter Lewis Williams,

Of Brookneal, one of the oldest practicing physicians in Virginia, died in Lynchburg, June 26th. after a short illness. He was eighty-seven years of age and a graduate of the Medical College of Virginia in 1885. Dr. Williams began the practice of medicine in Campbell County with his father at Maryville. He later moved to Brookneal and was a partner in the construction of the first bridge over the Staunton River, replacing the ferry at Brookneal. Dr. Williams had been a member of the Medical Society of Virginia for sixty-one years and was made a Life Member at its 1948 meeting. A daughter and two sons survive him.

Dr. William Gerry Morgan,

Nationally known physician of Washington, died July 7th. He was eighty-one years of age and received his medical degree from the University of Pennsylvania in 1893. Dr. Morgan was a former president of the American Medical Association, the American Gastronomical Society, American College of Physicians and Surgeons, and the District of Columbia Medical Society. He was made an Honorary Member of the Medical Society of Virginia in 1929 and a Life Member in 1948.

Dr. Arthur Douglas Parker,

Norfolk, died June 18th of coronary thrombosis. He was fifty-three years of age and received his medical degree from the College of Physicians and Surgeons, Columbia University, New York, in 1921. He located in Norfolk in 1924 where he practiced except for six years spent in the U. S. Navy. His wife and a son survive him.

Dr. Walter Neale Chinn,

Prominent physician of the Northern Neck, died at his home at The Hague on June 28th after a brief illness. He was seventy-seven years of age and a graduate of the Medical College of Virginia in 1901. Dr. Chinn took an active part in the civic and political affairs of his community and was also a prominent churchman. Four sons and two daughters survive him.

Resolutions on Dr. G. Blight Harrison.

The Fredericksburg Medical Society and The Staff of The Mary Washington Hospital acknowledge with deepest regrets the loss of one of their older and most beloved members. Doctor G. Blight Harrison, whose death occurred suddenly at his home in this city, May 17th, at the age of sixty-eight. Dr. Harrison had been in active practice in this community for forty-three years. He was graduated in medicine from the University of Maryland in 1906, and since then had taken several post-graduate courses in surgery and general medicine. He had been president of the local medical society and the Northern Neck Medical Society, and was a member of the American Medical Association and the Medical Society of Virginia.

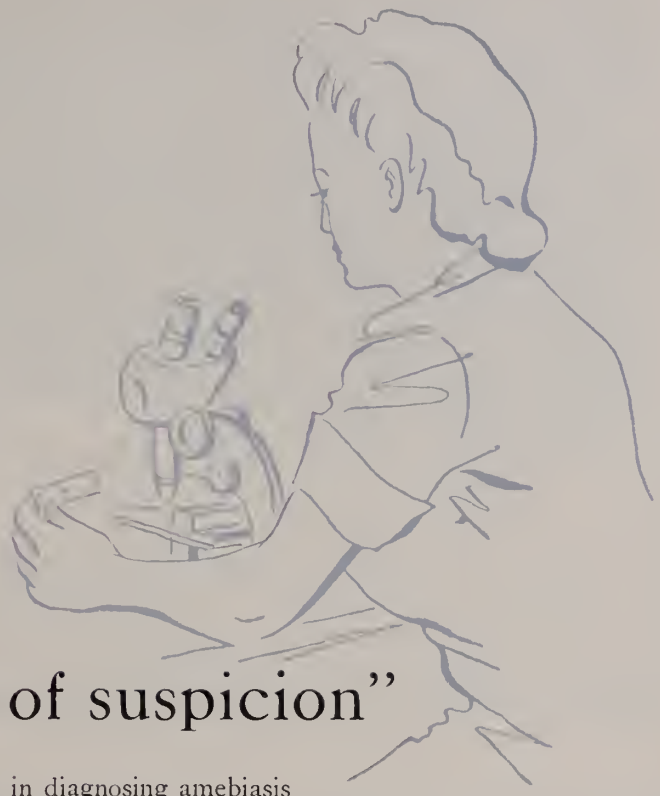
BE IT THEREFORE RESOLVED That the Medical Society of Fredericksburg wishes to express to the family of Dr. Harrison their sincere sorrow in his sudden passing.

That the medical profession has suffered a great loss. From the beginning of his professional career, he gave freely of his time and talents and his attractive personality and deep sense of humor endeared him to his patients as well as to his professional colleagues.

The community has lost a valuable citizen and the medical profession a talented and beloved physician and friend who will be greatly missed.

BE IT FURTHER RESOLVED That a copy of these resolutions be sent to his family, to the *Fredericksburg Free Lance Star*, recorded in the minutes of The Fredericksburg Medical Society, and be sent to the VIRGINIA MEDICAL MONTHLY.

T. W. DEW, Chairman
FRANK PRATT
W. W. BUTZNER, JR.



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1. Warshawsky, H.; Nolan, D. E., and Abramson, W.: Hepatic Complications of Amebiasis, New England J. Med. *235*:678 (Nov. 7) 1946.

2. Manson-Bahr, P.: Some Tropical Diseases in General Practice: "A Post-War Legacy," Glasgow M. J. *27*:123 (May) 1946.

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FROM SECRETARY OF DEFENSE LOUIS JOHNSON—

AN URGENT APPEAL TO YOUNG DOCTORS!

Your personal help is needed to avert a serious threat to our national security!

By the end of July of this year we will have lost almost one-third of the physicians and dentists now serving with our Armed Forces. Without an increased inflow of such personnel, the shortage will assume even more dangerous proportions by December of this year.

These losses are due to normal expiration of terms of service. The professional men who are leaving the Armed Forces during this critical period are doing so because they have fulfilled their duty-obligations and have earned the right to return to civilian practice.

Without sufficient replacements for these losses, we cannot continue to provide adequate medical and dental care for the almost 1,700,000 service men and women who are the backbone of our nation's defense.

Normal procurement channels will not provide sufficient replacements!

To alleviate this critical, impending shortage of professional manpower in the three services, I am urging all physicians and dentists who were trained under wartime A. S. T. P. and V-12 programs under government auspices or who were deferred in order to complete their training at personal expense, *and who saw no active service*, to volunteer for a two-year tour of active duty, at once!

We have written personally to more than 10,000 of you in the past weeks urging such action. The response to this appeal has not been encouraging, and our Armed Forces move rapidly toward a professional manpower crisis!

Many responses have been negative, but worse—a great number of doctors have not replied. It is urgent that we hear from you immediately!

We feel certain that you recognize an obligation to your fellow men as well as to your profession in this matter. We are confident that you will fulfill that obligation in the spirit of public service that is a tradition with the physician and dentist.

There is much to be said for a tour of duty with any of the Armed Forces. You will work and train with leading men of your professions. You will have access to abundant clinical material; have the best medical and dental facilities in which to practice. You will expand your whole concept of life through travel and practice in foreign lands. In many ways, a tour of service will be invaluable to you in later professional life!

Volunteer now for active duty. You are urged to contact the Office of Secretary of Defense by collect wire immediately, signifying your acceptance and date of availability. Your services are badly needed. Will you offer them?

Louis Johnson

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CONVENTION ISSUE

CONTENTS

Guest Editorial. O'Donel Browne, Litt.D., M.B., M.A.O., M.A., F.R.C.P.I., F.R.C.O.G. ---------- 433

Historical Setting. Annual Meeting—Medical Society of Virginia. Chester D. Bradley, M.D., and Miriam D. Bradley, Newport News, Va. ---------- 436

Program—Medical Society of Virginia ---------- 444

Reports for the 1949 Meeting—Medical Society of Virginia-- 452

The Clinical Aspects of Electroencephalography. James B. Funkhouser, M.D., Richmond, Va. ---------- 472

Rickettsial Diseases of Probable Interest in Virginia. V. A. Turner, M. D., Abingdon, Va. ---------- 479

Subshock Insulin Therapy in Anxiety States. R. Finley Gayle, Jr., M.D., Claude L. Neale, M.D., and Thomas S. Cheek, M.D., Richmond, Va. ---------- 483

Continued on page 6.

BROWN-SEQUARD

September, 1949

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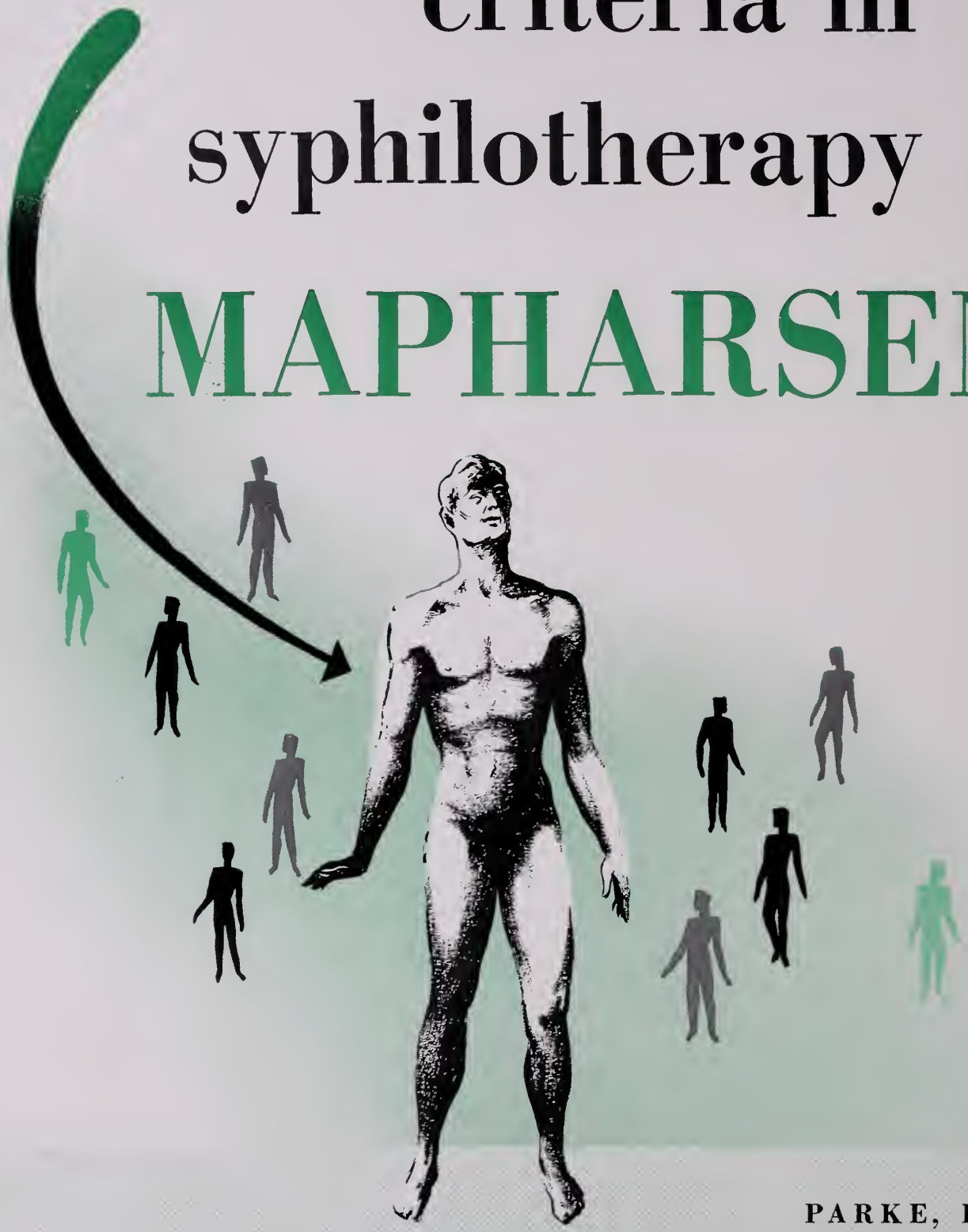

PARKE, DAVI

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GUEST EDITORIAL

The Third Stage of Labour

EACH phase of labour is clearly defined; the third stage is from the birth of the baby, until the placenta and its membranes are expelled together with the retroplacental haematoma. The first and second stages of labour are important, but the third stage and its conduct must not be regarded as easier nor commanding less attention. Faulty care here causes postpartum haemorrhage or retention of some portion of the placenta, membranes or blood clot; the latter predisposes towards genital tract infection with subinvolution of the uterus and, possibly, death of the mother.

It is not within the scope of this short article to deal with all the abnormalities of the third stage of labour. Let us suppose, therefore, that we are dealing with a normal labour when the baby has been born alive at full term (i.e., the end of the second stage) and where the cord has been tied and severed. What subsequently happens within the uterus? What factors cause the placenta to separate and to pass into the vagina? How can it be recognized when the foregoing have occurred? How, and when, should the placenta be expressed and the third stage completed?

Questions one and two (above) can be answered by the same explanation. As soon as the child and the remaining liquor amnii are expelled the uterine muscle shrinks down rapidly upon what still remains in utero (the placenta and its membranes). Although this process is similar whether the patient is in labour or not (as in Caesarean section before labour) it is more rapid when the patient is in labour and the uterine contractions are forceful. But even in the absence of active labour, uterine muscle possesses the power of permanent shortening of its individual muscle bundles, and this progressive shrinkage automatically seals off the uterine sinuses thus controlling the blood loss. This inherent power of uterine muscle bundles to shorten is spoken of as *retraction* (intermittent uterine activities are called *contractions*), and the haemostatic power of retraction is most vividly illustrated where Caesarean section is done before labour.

As retraction and contraction of uterine muscle proceed, following birth of the baby, the area of uterine wall onto which the placenta was attached becomes markedly reduced. As a result of this the placenta (which cannot shrink accordingly) separates from the uterine wall through the spongy layer of the decidua. The cleavage of fine blood vessels and large venous sinuses thus caused leads to an outpouring of blood behind the placenta (the utero placental haematoma) and this promotes further placenta separation, while uterine shrinkage continues. As a result of this shrinkage-cleavage process the placenta and its membranes are gradually stripped off the uterine wall and finally extruded into the vagina. In the unattended case the completely separated afterbirth is finally expelled from the vagina by the patient coughing, sneezing, getting out of bed, or straining down. The average loss of blood on the third stage is about 8 to 10 ounces.

The process of separation of the placenta from the uterine wall, and its expulsion into the vagina, requires 20-30 minutes in the normal case. This brings us to the third

question, namely "How do we know when the placenta and membranes are in the vagina?" It is most important to be able to recognize this, and the following description should make it simple to understand:—

When the baby has been delivered and its cord tied and severed, put the woman on her back in bed, keep her warm and note the following points:—

(1) Her pulse, colour and temperature. The last mentioned is not so important, but all three are a guide as to her condition should bleeding follow.

(2) The height of the fundus. In the normal case this should be at the level of the umbilicus and remain there until the placenta enters the vagina.

(3) What bleeding, if any, is taking place from time to time. The physiological processes of the 3rd stage need 20 to 30 minutes and, in the absence of any unusual bleeding, avoid manipulation or any interference with the uterus until the signs show that the placenta and membranes have separated and are in the vagina. When this has occurred, express the placenta and membranes by the Dublin method.

SIGNS THAT THE PLACENTA IS IN THE VAGINA

When the separated placenta has passed into the vagina there is

(1) Slight bleeding visible at the vulva.

(2) The cord lengthens, and does not shorten when the fundus is pulled upwards.

(3) The fundus uteri rises to a slightly higher level, becomes more mobile from side to side, and sags to the right side of the mother's abdomen.

(4) If the fundus is pushed down, the cord lengthens; if it is kept taut it does not shorten when the uterus is pulled up by the fingers pressing in above the pubes.

When these signs are present it is safe to express the placenta.

THE DUBLIN METHOD: No anaesthetic is necessary. At this stage it may be difficult to outline the soft uterus; rub up the fundus to cause a contraction and, when it is hard and definite in outline, press it downwards and backwards in the line of the axis of the brim of the pelvis thus using it as a piston to push the placenta through the vulvar outlet. To avoid any sudden chuck or traction in the membranes either the assistant can receive the expressed placenta in his gloved hands, or the weight of the placenta can be supported by a clip forceps on the cord. No traction should be exerted upon the cord as this may produce *inversion* (turning inside out) of the uterus. Similarly, inversion of the uterus may be caused if it is used to expel the placenta before being rubbed up.

Following the expression of the placenta and its membranes, it is essential that the uterus be gently but persistently massaged until it is in firm contraction, and until whatever clot remains inside the uterus has been expressed. It must never be forgotten that retention of a portion of the membranes, or of a piece of placenta, or of an accumulation of a clot within the uterine cavity, favour the occurrence of both postpartum haemorrhage and infection.

When the placenta and its membranes, and the retroplacental haematoma, have been expressed from the vagina the patient is carefully washed up, a dry sterile vulva pad is applied and she is then made comfortable. Some favour the use of a tight abdominal binder, which serves the double purpose of providing support for the slack abdominal walls and pelvic joints and keeping the vulvar pad in position. It is optional as to whether it be used and, owing to the shortage of materials and laundry facilities during the war, most obstetricians now omit the use of a binder.

The third stage has not been satisfactorily completed even now, and it is very neces-

sary to rub the uterus up again 15 to 20 minutes later. Usually an intrauterine clot collects, and if this is not expressed there still remains the danger of postpartum haemorrhage. Should there be any tendency to bleeding following expulsion of the placenta, membranes and retroplacental clot, give some ergot preparation, either by mouth or by injection; Ergometrin produces rapid and sustained uterine activity until the danger period is passed, and is best intravenously.

Nobody can foretell when abnormalities may arise in any third stage of labour but, when dealing with a third stage following uterine inertia, remember that the time required for complete placental separation and expulsion is increased. Efforts at forceful and premature efforts to express the placenta in such cases lead to its partial separation and the onset of postpartum haemorrhage. It is also true that in cases of accidental haemorrhage, where the placenta is separated in advance of birth of the child, the third stage is shorter than normal. It is a common mistake to overlook the fact that a full bladder will mask the signs showing that the placenta has separated and is lying in the vagina. If there is delay in the third stage, pass a catheter before deciding that any abnormal retention of the placenta is present.

All the abnormalities of the third stage of labour cannot be included in this short article, but it may be stated dogmatically that no patient should die from postpartum haemorrhage if the third stage (either normal or abnormal) is properly treated provided that the woman's condition was satisfactory at the time of birth of the child. In this connection remember that any woman who has suffered from antepartum haemorrhage (accidental haemorrhage or placenta praevia) cannot tolerate the same loss as a woman who has not bled before delivery.

O'DONEL BROWNE, Litt.D., M.B., M.A.O.,

M.A., F.R.C.P.I., F.R.C.O.G.

EDITOR'S NOTE: Dr. Browne is Master of Rotunda Hospital, Dublin; Kings Professor of Mid-wifery, Dublin University; Gynaecologist to Stewarts Hospital, County of Dublin; formerly Gynaecologist to Sir Patrick Dun's Hospital and Monkstown Hospital, Dublin.

Floral Eponym

Soemmeringia Semperflorens

V. SOEMMERING, SAMUEL THOMAS, 1755-1830

V. SOEMMERING was a celebrated anatomist and physiologist of Frankfurt and Munich. He is best remembered for his remarkable accuracy in anatomical illustration and for his classification of the cranial nerves. He was one of the inventors of the electric telegraph. Martius named a plant for Von Soemmering at a celebration of Von Soemmering's fiftieth anniversary of his doctor's degree.

Soemmeringia semperflorens is a perennial herb about one or two feet high. It bears small anillary racems of pure white flowers. It grows in the lowlands of Brazil.

HISTORICAL SETTING ANNUAL MEETING—MEDICAL SOCIETY OF VIRGINIA

CHESTER D. BRADLEY, M.D.,
and
MIRIAM D. BRADLEY,
Newport News, Virginia.

For over 340 years history has been made on the VIRGINIA PENINSULA. This narrow strip of land between the James and York Rivers has been the setting for three great events which shaped your nation's history: The Jamestown Settlement, The Birth of the Revolution at Williamsburg, and The Surrender of Cornwallis at Yorktown. In 1862 naval warfare was revolutionized by the famous "Battle of the Ironclads," which took place several miles off the Peninsula's southern shore. For 4 hours the Union Monitor and the Confederate Merrimac pounded one another in a no-decision fight. From that day on wooden warships the world over were obsolete.

At Old Point Comfort the first Englishmen found in 1607 a channel which "put them in good comfort." Beyond the Point they discerned the Indian Village of Kecoughtan where they stopped to exchange presents with the Indians before going on to Jamestown Island. Old Point Comfort is to be the place of the 102nd annual meeting of the Medical Society of Virginia. We will meet in the sumptuous Chamberlin Hotel whose red brick mass dominates Old Point Comfort as it towers high over the buildings and fortifications of Fort Monroe. On a clear day the distant silhouette of "Old Point" stands out against sky and water, red against blue, with all the exquisiteness of a picture on a china plate. The waters of Hampton Roads teem with the shipping of all nations. The great roadstead affords a protected anchorage to vessels waiting their turn to enter the harbors of Newport News and Norfolk. From the Chamberlin's windows one sees a constant procession of ships: merchant vessels, warships, fishing smacks, pleasure craft, and ferry boats. Here at Old Point Comfort is one of the outstanding tourist resorts of the world.

Believe it or not, old Chief Blackhawk of Illinois was responsible for making Old Point Comfort a tourist resort. In 1832 this grim warrior and some of his braves were brought to Fort Monroe for confinement after their defeat in battle. Tourists flocked to stare at the fierce redskins from the wilds of Illinois. There was an humble inn on the Point for workmen. Its proprietor shrewdly saw the possibilities and converted it to a tourist hotel. That is how the tourist industry grew up on Old Point Comfort under the guns of Fort Monroe. The present Chamberlin is the inheritor of more than 100 years of hostelry tradition.

FORT MONROE is the third fort on Old Point Comfort, the first having been built in 1609. The present fort was begun in 1819 and was named after President James Monroe whose administration is nostalgically known as "The Era of Good Feeling." Edgar Allen Poe was once a private at Fort Monroe under the assumed name of E. A. Perry. Robert E. Lee was stationed there prior to the Civil War and supervised part of the construction of the fort. The outstanding tourist attraction on Old Point Comfort is the FORTRESS (a fort within the fort) surrounded by a broad water-filled moat. The fortress which is now obsolete must be entered by bridges like a medieval castle. In the walls of the fortress are chambers or casemates which were once occupied by the garrison. In one of these casemates Jefferson Davis was confined for a while following the Civil War. This casemate is indicated by a historical marker. The United Daughters of the Confederacy have also placed a plaque in appreciation of Dr. John J. Craven of the United States Army "whose humanity, intelligent companionship and professional skill lightened the monotony, the loneliness and the physical suffering of Jefferson Davis."

On the green inside the fortress stands the lovely CHAPEL OF THE CENTURION, the post chapel of Fort Monroe, which is open daily for prayer and rest. It was erected in 1858 through the efforts of Lieutenant Julian McAllister of the Ordnance Department as a thank offering for an almost miraculous escape from death. This officer and two others were working in a laboratory when an explosion occurred. McAllister escaped with his life but the two other

The fortress at Fort Monroe with moat

officers were killed, and this chapel is his recognition of the Divine Providence which spared his life. THE CHAPEL OF THE CENTURION was dedicated in 1858 by the Episcopal Bishop of Virginia. It is dedicated to St. Cornelius, the patron saint of military men. Cornelius was a Roman centurion (captain) stationed in Palestine who was converted by Peter. His story is related in the 10th chapter of Acts where he is described as "a centurion of the band (company) called the Italian band." The lighting of the chapel's interior is greatly subdued by the deep colors of the stained glass memorial windows dedicated to artillery and engineer officers of the last century. Standing out boldly over the altar is a lighter colored stained glass window with a life-size representation of Cornelius the Centurion. The altar is bathed by the golden light filtering through the image of St. Cornelius. The beautiful green altar frontal was a gift of the St. Hilda Guild, New York City. Hanging from the walls of the chancel and nave are the flags and colors of old regiments of the United States Army. These are interestingly described in a free booklet prepared by the Post Chaplain, Major W. Hubert Bierck.

PRESIDENT WOODROW WILSON was especially fond of worshipping in the CHAPEL OF THE CENTURION when he and Mrs. Wilson would come down to Old Point Comfort on the Presidential yacht, the Mayflower.

Not far from the Chamberlin Hotel are the twin spires of ST. MARY'S STAR OF THE SEA, which is often mistaken for the post chapel. It is, however, a civilian church which grew up on Old Point Comfort in pre-Civil War days to minister to the spiritual needs of Catholic workmen engaged in work on the fort. Its corner stone was laid in 1860 by Bishop John McGill. During the Civil War the Sisters of Charity did heroic work in taking care of the sick at Fort Monroe. The church draws its parishioners from the civilians of Phoebus, Hampton and Newport News, but due to its early establishment on Old Point Comfort the United States Government has permitted it to continue standing on the grounds of the fort. St. Mary's Star of the Sea is named after the patron saint of the Portuguese navigators who charted much of the New World.

In front of the Chamberlin Hotel is the boat dock where the arrival and departure of the Baltimore and Washington steamers provide a colorful spectacle, especially if an army band happens to be giving a concert in the nearby bandstand. Mid-channel on the ferry course between Old Point Comfort and Willoughby Spit is the fortified island of Rip Raps which was created by piling rocks on top of a submerged shoal. The garrison of this satellite fort which is officially known as Fort Wool must lead a lonely life. During World War I defense nets were spread from its foundation to trap submarines.

The approach to the gate of Fort Monroe is through the town of PHOEBUS named after Harrison Phoebus, a famous Old Point Comfort hotelier of the post-Civil War days. This polished and energetic businessman established the tradition of elegance and comfort which the present Chamberlin maintains today. Roseland Manor, the magnificent

estate of Harrison Phoebus (now owned by the Kenyon family) is open to visitors annually.

HAMPTON is the next town west of Phoebus. It is the OLDEST CONTINUOUS ENGLISH-SPEAKING SETTLEMENT IN AMERICA, having been settled in 1610. (Although Jamestown was settled three years earlier, it was abandoned after 1699.) Hampton had the first free school in the Colonies which was established by Dr. Thomas Eaton, a physician, in 1634. The town was originally called Kecoughtan after a tribe of Indians which the first Englishmen found there in 1607. White settlers drove away the Indians and later changed the name of the settlement to Hampton after the Earl of Southampton. This nobleman was one of the principal stockholders in the London Company, which owned the Virginia Colony before it was taken over by the English government. Although Hampton dates from 1610 its architecture does not reflect its history for it has been burned two times, once by the British in 1812 and once again during the Civil War by the Confederate General Magruder as a sort of "scorched earth" measure. No building of any consequence survived the last fire and all of the town's valuable archives perished.

The most historic and also the most charming structure is old ST. JOHN'S EPISCOPAL CHURCH whose tightly packed graveyard shaded by giant trees is a refreshing retreat from the busy main street. Established in 1610 St. John's is the oldest Protestant parish in continuous existence in America. There were three earlier church buildings. The present structure was built in 1727 and has survived three wars, undergoing bombardment in the Revolution, pillage in the War of 1812 and the final disaster of fire in the Civil War. However, the "old walls honestly built" by Colonial workmen stood firm and the church was restored in 1869. The graveyard is still in use as a burial ground, many of the headstones being so old that

Old St. John's Church, Hampton Parish established in 1610

they are illegible. The grave of Hannah Nicholson Tunnell, "the Confederate female Paul Revere" is marked by a large rough hewn granite block near the west door. On June 10, 1861, Hannah Tunnell warned the Confederates of the approach of the enemy at Bethel. Also, buried in the churchyard is Hugh Smith Cummings, Surgeon General of the United States, who was a native of Hampton.

St. John's Church is built in the form of a cross. Its interior is characterized by a simple beauty. The pure white marble of the altar, baptismal font, lectern and pulpit are in effective contrast to the dark oak beams of the ceiling. The stained glass windows are outstanding in workmanship and design. Especially interesting is a window dedicated to the 21 Colonial rectors of St. John's which shows a clergyman with an open Bible standing in the prow of a boat approaching a shore where savages are capering. Another window depicting St. Luke, the physician, is dedicated to George William Semple, 34th President of the Medical Society of Virginia. The presence of a stained glass window representing the baptism of Pocahontas, may lead the tourist to suspect that St. John's Parish had some link with Pocahontas. This is not so, for the window dates back to the 1880's when Sioux Indians from the Dakotas, who were attending Hampton Institute, used to worship at St. John's. (A large portion of the Sioux nation were converts to the Episcopalian denomination.) These Indians from the Far West were intensely interested in the story of Pocahontas and they donated the Pocahontas window to St. John's. A large number of these young Indians unfortunately died of tuberculosis during their stay in Hampton and they are buried in the old cemetery on the campus of Hampton Institute.

Five generations of the Jones family worshipped in St. John's from 1781 to 1919, according to a plaque over a pew near the south door. Solomon Fosque, a devoted Negro sexton, is commemorated by a plaque in the west vestibule. A complete list of all the rectors of St. John's from 1610 to the present day, 45 in all, hangs in the South vestibule. The present rector, Carter H. Harrison, is a direct descendant of Benjamin Harrison, who settled in Jamestown in 1635. He is also a descendant of Pocahontas. The church possesses a silver communion service which was brought from London in 1619.

Hampton may be called a city of seafood and institutions. Fishing, crabbing, oyster-farming and seafood packing are the native industries. Every September Hampton celebrates its annual SEAFOOD FESTIVAL with the crowning of a Seafood Queen, a grand parade and street dancing. Also contributing heavily to the town's economy are the government institutions such as the aeronautical research laboratories (National Advisory Committee for Aeronautics), the Veterans Administration, the military establishments; also, the faculty and students of Hampton Institute. The core of the town's population is soundly Southern but since Hampton is located at the tip of the Peninsula the currents of commerce and war have brought to it people from all points of the compass. For instance, there is a small group of prominent families whose founders came from New England and other Northern places soon after the Civil War. Energetic and enterprising they made fortunes in the seafood industry later branching into vaster realms such as real estate developments and street railways. Still prominent in the business and professional life of the town are a number of families whose residence in Hampton dates back to the days of the Royal Colony, such as the Bookers, Seldens, Joneses, Tabbs, Chismans, Hopes, Holts and Lees, to mention but a few. Another distinct native group in the town's population is formed by the "Poquosonites" and the "Fox Hillians", who are derived from a cluster of fishing villages some miles north of Hampton. In early days these people lived in virtual isolation because of the lack of communication, consequently they are so intermarried that the same family names occur over and over. Accustomed for several centuries to wresting a living from the sea and the soil with their own hands, they turned their energies to business with great profit when after the dawn of the automobile age they began to settle in Hampton. Today "Poquosonites" and "Fox Hillians" are very important in the business life of Hampton.

Hampton's population has been greatly increased in recent years by aeronautical research workers who have come from all over the country, South, North, and West to work at the Langley Field Air Base. Many of the workers in the Newport News Shipyard have made their homes in the Hampton area. A familiar figure in Hampton is the retired army officer, a major, a colonel or even a general, who fell in love with the town during a tour of duty at Fort Monroe or Langley Field, many years

ago. In some cases he bought his home long in advance of his retirement and rented it out while he was serving out his time in humdrum posts elsewhere in the United States and in the tropical heat and squalor of foreign assignments. Once back in Hampton in his dream house with time on his hands, he fishes, gardens, bosts, dabbles in civic affairs or may even take an executive job in business.

Hampton is cut up by the jagged arms of Hampton Creek. Along its waterfront are giant mounds of oyster shells and the commingled odors of fish and crabs. Housewives go to the wharves to buy seafood fresh from the briny deep. The town is knit together by a number of graceful bridges from which one obtains a beautiful view of the snug little harbor with its fishing fleet and the Yacht Club. The HAMPTON YACHT CLUB is a rendezvous for yachts bound to and from Florida and is the scene of annual regattas. In front of the Yacht Club entrance stands THE BRADDOCK CANNON which marks the spot where General Braddock landed in 1755 with two regiments of British regulars to open the campaign to drive the French away from what is now Pittsburgh. Unaccustomed to wilderness fighting Braddock's forces were ambushed by French and Indians in the wilds of Pennsylvania. Braddock was killed after four horses had been shot from under him and the young Washington who had accompanied him as an aide-de-camp barely escaped with his life. The Braddock Cannon points to a tongue of land at the mouth of the harbor known as BLACKBEARD'S POINT after the famous pirate, Captain Edward Teach. Exasperated by the pirates' attack on Hampton shipping, Captain Henry Maynard of Hampton led an expedition against their lair in North Carolina in 1718. Defeating Blackbeard, he severed the bloodthirsty rascal's head from his body and placed it on a pole at the entrance of Hampton Harbor to warn any mariner contemplating piracy as a career.

The Braddock cannon with Blackbeard's Point in background

Across the harbor opposite the Yacht Club one sees the towers and gables of HAMPTON INSTITUTE, one of the greatest centers of Negro education in the world. This school had its beginning in a group of illiterate, runaway slaves who sat under the trees at the feet of missionaries and shouted out the letters of the alphabet. Today Hampton Institute has grown to an aggregate of 139 buildings occupying 75 acres of land with an enrollment of over 1,500 young men and women. Students are trained in hand as well as mind and taught primarily to make a living in accordance with the ideal of the founder, General Samuel Chapman Armstrong (1839-1893). The trade school teaches everything from brick-laying to tailoring while the collegiate schools teach agriculture, arts and sciences, business, education, home economics, library science and nursing. OGDEN HALL seats 2,000 people and the yearly concert season which features internationally famed artists, symphony orchestras, ballets and opera companys, is patronized by the entire population of the Peninsula. On Sunday evenings the students assemble in Ogden Hall to sing spirituals and other typical Negro music.

In 1878 INDIAN PRISONERS OF WAR from Florida were sent to Hampton Institute to be educated and Indians from all over the country continued to be enrolled until 1923. A large number of Sioux Indians from the Dakotas are buried in the OLD CEMETERY at the southeast corner of the campus. A trip to this cemetery is worth while to read the picturesque Indian names on the tombstones, examples of which are Daniel Fire-Cloud, Virginia Medicine-Bull, Benjamin Bear-Bird, Lora Bowed-Headsnow, Mary Red-Bird, John Blue-Pipe, George Sharp-Horn, and Walter Little-Eagle. This cemetery also contains the ivy covered tomb of the founder GENERAL ARMSTRONG who was born in Hawaii of American missionary parents, was a general in the Union Army during the Civil War, and later made Negro education his life work.

General Armstrong persuaded the American Missionary Society to buy the land on which the institute stands and formal instruction was begun in 1868 in a converted Union hospital with himself as principal, two teachers to assist him, and 15 ex-

Chapel, Hampton Institute

slaves as pupils. Funds granted by the Federal Government at the outset were soon exhausted and the continuance of the work has since depended on contributions from friends of the Institute and what the school could earn for itself. One building was "sung up," for General Armstrong took the Hampton Institute Singers on a tour of the United States and Canada where they gave 500 concerts. They brought back $20,000 for the construction of Virginia Hall. The HUNTINGTON MEMORIAL LIBRARY was donated by Collis P. Huntington, the railway magnate who built the Newport News shipyard. This library is one of the finest in the South, containing 77,674 volumes, including a special collection dealing with the Negro. Among Hampton Institute's famous graduates are Booker T. Washington who walked all the way from West Virginia to enroll in the school and Dorothy Maynor, the well-known concert singer.

Directly behind the campus is a CIVIL WAR CEMETERY belonging to the Kecoughtan Veterans Administration. It is beautifully laid out and contains several interesting monuments and cast iron plaques. It was started at the close of the Civil War with the bodies of soldiers who had died in fighting between Hampton and Richmond. Over 400 of the bodies were those of unknown soldiers. Later burials have been those of inmates of the National Soldiers' Home now known as the Veterans Administration. The VETERANS ADMINISTRATION lies between Hampton and Old Point Comfort on the approximate site of the old Indian village of Kecoughtan. This is why the name Kecoughtan was revived as a post office address for the institution by Col. Keith Ryan, former head of the local Veterans Administration. The National Soldiers' Home was established in 1871 in the building formerly occupied by the Chesapeake Female Seminary. Continued as the Veterans Administration it has long imparted a specific flavor to Hampton life. The older veterans amble along the streets, stand on the street corners, or lounge contentedly on the wharves. Some hawk nicknacks of their own making such as canes, leather belts, or metal ware. The KECOUGHTAN HOSPITAL, a magnificent 600 bed hospital fronting on Hampton Roads, surrounded by beautiful grounds, ministers to sick veterans of all United States Wars. The last Civil War veteran expired several years ago and the Spanish-American War veterans have taken over the ancient status formerly occupied by the Civil War veterans.

Several miles to the north of Hampton is the LANGLEY FIELD AIR BASE. It is not only an important Army Air Force post, but it is the home of the NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS (N.A.C.A.) where scientists toil night and day in the giant wind-tunnels to unlock the secrets of the air. Founded in 1917 with about a dozen employees, its personnel has grown to 3,300. Its payroll is over $1,000,000 per month and the plant is valued at $50,000,000. The organization's aim is to assure American leadership in aeronautics. At present tourists are allowed to drive through the Langley Field Air Base. Northeast of Hampton is BUCKROE BEACH which is located on Chesapeake Bay. It is a summer resort for salt water bathing, fishing and dancing and also has a large amusement park. In 1620 the London Company sent Frenchmen to Buckroe to teach the colonists silkworm culture. Because the early navigators had confidently expected to find India instead of America when they sailed due west, the London businessmen could not rid themselves of the idea that the New World must have the same possibilities as India and other Oriental countries. Silkworm culture at Buckroe soon failed and the colonists turned to tobacco raising which was to be the Peninsula's main industry for several centuries.

NEWPORT NEWS is a thriving seaport and shipbuilding center located on the western shore of the Peninsula at the mouth of the James River. "The World's Greatest Harbor" is the city's proud boast. Although settled in 1619 it remained an unimportant fishing village until 1880 when it was chosen as the Atlantic deepwater, coal-shipping terminal for the Chesapeake and Ohio Railway system. Today it is

the world's largest coal-shipping terminal. In 1889 Collis P. Huntington built the NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY and since then the growth of the city has been rapid. During World War II about 30,000 men were employed in the shipyard, many of whom remained in Newport News. The shipyard stretches a mile or so along the James River and covers 125 acres. Huntington's motto is inscribed on a monument just inside the shipyard gate: "WE SHALL BUILD GOOD SHIPS HERE AT A PROFIT IF WE CAN, AT A LOSS IF WE MUST, BUT ALWAYS GOOD SHIPS." This shipyard is proud to have built the S. S. America, the largest passenger ship yet built in this country. Among the many famous fighting ships it has turned out are the Yorktown, the Hornet, the Midway and the Coral Sea. The keel for the $189,000,000 supercarrier, "The United States" was laid in the Newport News Yard. During both World Wars, Newport News was a major supply and embarkation port for the European theater of war. Under the Victory Arch at 25th Street and West Avenue there marched 441,146 homecoming World War I veterans in 1918 and 1919.

Newport News boasts three unique and outstanding museums on its outskirts. The MARINERS' MUSEUM is located in a park of more than 800 acres, and contains a vast collection of ship figureheads, prints and marine paintings, ship models, anchors, marine engines, deck and steering gear and navigation instruments. It also houses a library of over 32,000 books and manuscripts. THE WAR MEMORIAL MUSEUM OF VIRGINIA contains a collection of army guns, tanks and other military equipment of World Wars I and II. It is also the official museum of the N.A.C.A. and has working models of the great wind tunnels of Langley Field. THE JAMES RIVER GOLF MUSEUM is considered one of the finest of its kind outside of St. Andrews, Scotland. It was established by Archer M. Huntington. All these museums are free of charge.

The town of Newport News has all the flavor of a seaport. Its streets are enlivened by the uniforms of sailors from warships out in the harbor, soldiers from Langley Field and Fort Monroe, Military and Naval police assist the civilian police in keeping order on the town's main thoroughfare, Washington Avenue, which reminds the Mid-Westerner of a smaller edition of State Street in Chicago. Groups of swarthy, gesticulating foreign merchant seamen from the Mediterranean countries give an exotic touch. One even sees an occasional tubaned Lascar sailor from the Far East. Newport News has a festive air when the shipyard launches a new vessel with the ceremony presided over by visiting high dignitaries. The city is con-

The Mariner's Museum, Newport News

James River Golf Museum, Newport News

nected with the mainland by ferry and by the almost unbelievably long James River Bridge which stretches five miles from shore to shore. Viewed in the distance from the north end of the city it makes a sight that one does not soon forget.

Further up the Peninsula are the historic shrines of WILLIAMSBURG, JAMESTOWN, and YORKTOWN. The attractions of these places are too well known and too thoroughly catalogued to need space in this article. Suffice it to say that Jamestown will have a special interest for the Medical Society of Virginia because it is the home of the colorful Dr. John Pott who was the official physician in the early days of the Jamestown Colony. Pott was a highly respected physician but he made many enemies because of his hot temper, impulsiveness and his taste for politics. However, he was always clever and resourceful enough to extricate himself from whatever scrape he got into. Pott did not like to have other people's hogs feed in his cornfield. Therefore, he had a standing rule that all trespassing hogs were to be summarily executed and served up on his table. This did not endear him to some early settlers. Pott and Governor Harvey conducted a bitter feud during which Pott was several times clapped in irons, but at last he won out by securing the Governor's recall. In 1626 Dr. Pott was sued by his apprentice for failing to teach him his craft. Pott died in 1642 after 20 years of a busy medical and turbulent political career in the Jamestown Colony.

On October 9, 1949, the medical profession of the Virginia Peninsula will welcome the Medical Society of Virginia back to Old Point Comfort where it last met in 1881. In 1881 our president was Hunter Holmes McGuire of Richmond, the South's leading surgeon. In 1949 our president will be M. Pierce Rucker of Richmond, one of the country's leading obstetricians and a medical historian as well. Pierce Rucker was born in 1881, the same year our Society last met at Old Point Comfort. Since 1881 the historic Lower Peninsula has changed from a sleepy fishing and farming community to an urban area of 150,000 people concentrated in the towns of Newport News, Hilton Village, Hampton, Phoebus and their satellite communities. There is no physical dividing line between these places, the only division being political. Our activities are many: shipbuilding, the port, the seafood industry, aeronautical research, the care of disabled veterans, the military establishments, education, and the tourist industry. It is now 343 years since the first Englishman landed on the Virginia Peninsula. Their leader, Captain John Smith, wrote back to England, with prophetic insight, "SO THEN, HERE IS A PLACE, A NURSE FOR SOLDIERS, A PRACTICE FOR MARINERS, A TRADE FOR MERCHANTS, A REWARD FOR THE GOOD."

PROGRAM

(PRELIMINARY)

102ND MEETING

MEDICAL SOCIETY OF VIRGINIA

CHAMBERLIN HOTEL

FORT MONROE

OCTOBER 9, 10, 11 and 12, 1949

Sunday, October 9
5:00 P.M.
Council—Monroe Room

8:00 P.M.
House of Delegates—Virginia Room

Monday, October 10
9:00 A.M.
Medical Section—Virginia Room

SARCOIDOSIS—T. N. Hunnicutt, Jr., M.D., Harry Nushan, M.D., and Benjamin Miller, M.D., Newport News

Discussion—Edward S. Ray, M.D., Richmond

PSYCHOSOMATIC MEDICINE: MECHANISMS COMMON TO SOME GASTRO-INTESTINAL DYSFUNCTIONS—John F. Williams, M.D., Richmond

Discussion—George S. Fultz, Jr., M.D., Richmond

THE TREATMENT OF ACUTE LEUKEMIA WITH AMINOPTERIN—J. H. Scherer, M.D., Richmond and F. C. McCall, M.D., Bristol

Discussion—John T. Stevens, M.D., Richmond

Surgical Section—Monroe Room

THE SURGICAL ASPECTS OF NEUROFIBROMATOSIS—Carrington Williams, Jr., M.D., Richmond

Discussion—Frank Philip Coleman, M.D., Richmond

SURGERY OF THE GALL BLADDER—Frank S. Johns, M.D., Richmond

Discussion—C. M. Caravati, M.D., Richmond

THE DIAGNOSIS AND TREATMENT OF RUPTURED CERVICAL DISC—James L. Thomson, M.D., Norfolk

Discussion—W. Gayle Crutchfield, M.D., Charlottesville

10:15 A.M.
Recess to Visit Exhibits

10:45 A.M.
General Session—Virginia Room

THE PRESENT DAY CONCEPT OF INDUSTRIAL MEDICINE—R. Lomax Wells, M.D., Washington, D. C. (*Guest*)

DIFFERENTIATION OF PAIN MECHANISMS ASSOCIATED WITH HEADACHE—Walter O. Klingman, M.D., Charlottesville

Discussion—Thomas N. Spessard, M.D., Norfolk

PSYCHIATRIC IMPLICATIONS IN GEREOLOGY—James P. King, M.D., and Daniel D. Chiles, M.D., Radford

Discussion—G. B. Arnold, M.D., Lynchburg

Monday, 2:30 P.M.
General Session—Virginia Room

USE OF PENICILLIN FOR TREATMENT OF EARLY CASES OF SYPHILIS IN THE CITY OF RICHMOND—E. M. Holmes, Jr., M.D., and Paul Bowden, M.D., Richmond

Discussion—Thomas Murrell, Sr., M.D., Richmond

TUBERCULOSIS CONTROL IN A LARGE GENERAL HOSPITAL—E. C. Harper, M.D., and W. E. Roye, M.D., Richmond

Discussion—Samuel Richman, M.D., Richmond

STREPTOMYCIN IN TUBERCULOSIS, ITS USE AND ABUSE (*Lantern Slides*)—W. E. Apperson, M.D., Charlottesville

Discussion—E. C. Drash, M.D., Charlottesville

3:30 P.M.
Recess to Visit Exhibits

4:00 P.M.

Clinical Pathological Conference—Roof Garden

William Parson, M.D., University of Virginia, Charlottesville

William B. Porter, M. D., Medical College of Virginia, Richmond

5:30 P.M.

Alumni Dinners

Medical College of Virginia—Virginia Room

University of Virginia, Department of Medicine—Hampton Room

Monday, 8:30 P.M.

General Session—Roof Garden

Call to Order—Waverly R. Payne, M.D., Chairman, Committee on Arrangements

Invocation—Rev. Carter H. Harrison, Rector of St. John's Episcopal Church, Hampton

Announcements

Welcome—

Colonel E. M. Fickett, Deputy Post Commander, Fort Monroe

Introduction of President

Awarding of Certificates to Members in "Fifty Year Club"

Address by President—The Future of Medicine in Virginia—Marvin Peirce Rucker, M.D., Richmond

Address — Sir William Osler — Reminiscences — Wilburt Cornell Davison, M.D., (*Guest*), Durham, North Carolina

Address by Representative of World Medical Association—Herbert Acuff, M.D., Knoxville, Tennessee

Memorial Hour—A. M. Showalter, M.D., Chairman, Membership Committee

Tuesday, October 11

9:00 A.M.

Medical Section—Virginia Room

THE MANAGEMENT OF THE COMPLICATIONS OF ACUTE MYOCARDIAL INFARCTION—Reno R. Porter, M.D., John R. Massie, Jr., M.D., and William Anderson, M.D., Richmond.

Discussion — Julian Beckwith, M.D., Clifton Forge

ANTI-COAGULANT THERAPY IN MYOCARDIAL INFARCTION—Julian R. Beckwith, M.D., and Robert H. Sease, M.D., Clifton Forge

Discussion—Paul D. Camp, M.D., Richmond

THE DIFFERENTIAL DIAGNOSIS OF ACUTE INFECTIOUS "IDIOPATHIC" PERICARDITIS AND MYOCARDIAL INFARCTION—Paul D. Camp, M.D., and Oscar Clarke, M.D., Richmond

Discussion—Wm. B. Porter, M.D., Richmond

9:00 A.M.

Psychiatric Section—Monroe Room

THE ALCOHOLIC PROBLEM—R. Finley Gayle, Jr., M.D., Richmond

Discussion—Harvey B. Haag, M.D., Richmond

THE PRESENT STATUS OF ELECTROENCEPHALOGRAPHY AND ITS IMPORTANCE IN THE GENERAL PRACTICE OF MEDICINE—I. S. Zfass, M.D., Richmond

Discussion—J. B. Funkhouser, M.D., Richmond

THE MANAGEMENT OF DELIRIUM IN THE GENERAL HOSPITAL—P. H. Drewry, M.D., and J. B. Funkhouser, M.D., Richmond

Discussion—John Powell Williams, M.D., Richmond

10:15 A.M.

Recess to Visit Exhibits

10:45 A.M.

General Session—Roof Garden

TOTAL COLECTOMY AND ANAL ILEOSTOMY—Mark M. Ravitch, M.D., (*Guest*), Baltimore, Maryland

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THE DIFFERENTIAL DIAGNOSIS OF MEDICAL AND SURGICAL JAUNDICE (*Lantern Slides*)—M. M. Pinckney, M.D., Richmond

Discussion—James O. Burke, M.D., Richmond

POLIOMYELITIS: RESPIRATION EMBARRASSMENT—Lee E. Sutton, Jr., M.D., and F. L. Angell, M.D., Richmond

Discussion—Williams E. Pembleton, M.D., Richmond

Tuesday, October 11

2:30 P.M.

General Session—Roof Garden

CANCER OF THE LUNGS WITH PARTICULAR REFERENCE TO THE ROENTGENOGRAPHIC FINDINGS—George Cooper, Jr., M.D., Charlottesville

Discussion—Frank Philip Coleman, M.D., Richmond

TREATMENT OF THE LOWER NEPHRON SYNDROME—J. Edwin Wood, Jr., M.D., Myers H. Hicks, M.D., and A. J. Crutchfield, M.D., Charlottesville

Discussion—John Hortenstine, M.D., Winchester

THE PREVENTION AND TREATMENT OF DEAFNESS—A. A. Burke, M.D., Norfolk

Discussion—Fred O. Fay, M.D., Norfolk

3:30 P.M.

Recess to Visit Exhibits

4:00 P.M.

Virginia Room

Symposium—Reading, Hearing and Speech Difficulties

Ullin W. Leavell, Director, McGuffey Reading Clinic, University of Virginia

James M. Mullendore, The Speech Clinic, University of Virginia

6:00 P.M.

Cocktail Party

Roof Garden

7:00 P.M.

Dinner and Entertainment

Hampton Room

Wednesday, October 12

9:00 A.M.

Medical Section—Virginia Room

LIPOID PNEUMONIA DUE TO THE USE OF MINERAL OIL AS A LAXATIVE (*Lantern Slides*)—E. Baron, M.D., Kecoughtan

Discussion—Thomas N. Hunnicutt, M.D., Newport News

DIAGNOSTIC PROBLEMS IN AMOEBIASIS—William A. Read, M.D., Newport News

Discussion—Charles M. Caravati, M.D., Richmond

PERNICIOUS ANEMIA, RECOGNITION AND TREATMENT (*Lantern Slides*)—Byrd S. Leavell, M.D., Charlottesville

Discussion—John B. McKee, M.D., Winchester

9:00 A.M.

Surgical Section—Fort Room

END RESULTS IN THE TREATMENT OF BLADDER TUMOR—Austin I. Dodson, M.D., and Charles M. Nelson, M.D., Richmond

Discussion—A. A. Creecy, M.D., Newport News

RETROPUBIC PROSTATECTOMY—Donald S. Daniel, M.D., Richmond

Discussion—Frank S. Johns, M.D., Richmond

NON-INVASIVE CARCINOMA OF THE CERVIX: AN OPPORTUNITY TO REDUCE CANCER MORTALITY—Randolph H. Hoge, M.D., Richmond

Discussion—John Nokes, M.D., Charlottesville

10:15 A.M.

Recess to Visit Exhibits

10:45 A.M.

General Session—Virginia Room

THE CAUSAL AND PREVENTIVE ASPECTS OF SPONTANEOUS ABORTION—Arthur T. Hertig, M.D., (*Guest*), Boston, Massachusetts

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ANTIBIOTICS AND CHEMOTHERAPY IN SURGICAL DISEASE (*Lantern Slides*)—William R. Sandusky, M.D., Charlottesville

Discussion—Edmund Horgan, M.D., Winchester

Installation of W. C. Caudill, M.D., as President

Announcements and Adjournment

Article IV, Section 3 (By-Laws) With the exception of the address by the President and invited guests, no address, paper, or other contribution on the program shall be longer than fifteen minutes.

Section 4—No one shall discuss a paper more than once and then for only five minutes. . . .

Section 7—All papers and contributions are the property of the Society and cannot be published elsewhere without the consent of the Publication Committee.

SCIENTIFIC EXHIBITS

SUN PORCH

1. *Streptomycin Treatment of Granuloma Inguinale.* Harry Pariser, M.D., Stanley Z. Goldberg, M.D., and George H. Mitchell, M.D., Hampton Roads Medical Center, Norfolk.
2. *Medical Public Relations.* Henry S. Johnson, Director, Public Relations, Medical Society of Virginia, Richmond.
3. *Preventing Mental Illness—Challenge to Public Health Agencies. A Nation-Wide Program of Mental Hygiene.* Department of Mental Hygiene and Hospitals, Commonwealth of Virginia in cooperation with the Public Health Service. (J. E. Barrett, M.D.) Richmond.
4. *Getting Well in a Mental Hospital.* Department of Mental Hygiene and Hospitals, Eastern State Hospital. (Granville L. Jones, M.D.) Williamsburg.
5. *Chest X-ray Findings in Cancer of the Lung.* George Cooper, Jr., M.D., and John G. Kroll, M.D., University of Virginia Hospital, Charlottesville.
6. *Spa Therapy.* F. A. Hellebrandt, M.D., and Sara Jane Houtz, M.S., Baruch Center of Physical Medicine, Medical College of Virginia, Richmond.
7. *Rheumatoid Spondylitis. Method of Diagnosis and Treatment of 80 Cases.* Elam C. Toone, Jr., M.D., William L. Wingfield, M.D., Samuel Richman, M.D., Medical College of Virginia and McGuire VA Hospital, Richmond.
8. *Early Ambulation After Surgery and Inguinal Herniorrhaphy for Indirect Inguinal Hernia.* Ernest T. Trice, M.D., Richmond.
9. *Peripheral Vascular Diseases. The Medical and Surgical Management of Peripheral Vascular Diseases.* Eugene L. Lowenberg, M.D., Norfolk General and DePaul Hospitals, Norfolk.
10. *Quantitative Serologic Tests for Syphilis. Definitions, Usefulness and Limitations.* Raymond Kimbrough, M.D., and Frank W. Reynolds, M.D., Medical College of Virginia, Richmond.
11. *Superficial Fungus Infections.* Richard W. Fowlkes, M.D., and Allen Pepple, M.D., Richmond.
12. *Lead Glass Fabric. Protective against Roentgen and Beta Rays.* V. W. Archer, M.D., George Cooper, Jr., M.D., H. D. Hebel, M.D., John G. Kroll, M.D., D. A. Cunningham, M.D., University of Virginia, Charlottesville.
13. *Activities of the Virginia State Department of Health.* J. Robert Anderson, M.A., Director, Bureau of Health Education, Virginia State Department of Health, Richmond.
14. *The Effect of Brain Stimulation on Blood Pressure and Kidney Circulation.* Ebbe Curtis Hoff, M.D., Jos. Kell, Jr., M.D., Nelson Hastings, M.D., Edwin H. Gray, M.D., Dillard M. Sholes, Jr., M.D., Medical College of Virginia, Richmond.
15. *Electroencephalography and Electromyography.* I. S. Zfass, M.D., Richmond.

MOVIES

(in motion projection room)

1. *Inguinal Herniorrhaphy* (time of showing—7 min.). Ernest T. Trice, M.D., Richmond.
2. *Nephrectomy for Cystadenoma* (time of showing—15 min.). Thos. G. Hurdle, M.D., Veterans Administration Hospital, Kecoughtan.

TECHNICAL EXHIBITS

Technical Exhibits will be set up in the Lobby of the Chamberlin Hotel. The following is a list of exhibitors with a brief description of each exhibit:

Booth No. 5

M & R Dietetic Laboratories, Inc.

Columbus, Ohio

Similac Division, M & R Dietetic Laboratories, Inc., Booth Number 5, will display Similac, a food for infants. Our representatives will appreciate the opportunity to discuss the merit and suggested application for both the normal and special feeding cases.

Booth No. 6

J. E. Hanger

Richmond, Virginia

Made under exclusive patents and serviced by 30 offices throughout the United States and Canada. Nearly the complete Hanger line of Artificial Limbs on display, both wood and metal. These include: Hanger Artificial Legs for below-knee, above-knee and hip-amputations; Hanger Artificial Arms and attachments for below and above elbow; and other special parts and attachments. Sectionalized models show internal construction and operation of the Artificial limbs. Individual parts are exhibited for inspection as to material and workmanship and the representatives knowledge of the limbs' manufacture and their experience in amputee rehabilitation enables them to discuss related questions and problems intelligently.

Booth No. 7

National Institute of Diaper Services

Richmond, Northern Peninsula and Washington, D. C.

Do the right diaper services help keep American babies healthy? Yes, says the NIDS, whose members in 150 areas are the only diaper services under "National laboratory control". There is such a thing as a "prescription" diaper service.

See our pictorial display giving 10 good reasons why you can safely recommend any diaper service displaying NIDS seal.

In Richmond, it's Stork Diaper Service; near Washington, it's Dy-Dee Wash of Washington; and in Hampton and Newport News, it's Di-Dee Service.

Booth No. 8

Schering Corporation

Bloomfield, New Jersey

Buccal Tablets of *Orcton, Progynon, Proluton* and *Cortate* with the new base Polyhydrol, will be featured at the

Schering exhibit. Developed in the Schering research Laboratories, the new Polyhydrol bases provides a means of complete utilizing hormones without the necessity of injection. *Trimeton,* an outstanding anti-histamine and *Thalamyd,* Schering's brand of pthalyl-sulfacetamide, a new sulfonamide extremely effective in ulcerative colitis and enteric infections, will highlight the exhibit.

Schering representatives will be present to welcome you and will be happy to answer inquiries.

Booth No. 9

The Liebel-Flarsheim Company

Cincinnati, Ohio

The Liebel-Flarsheim Company cordially invites you to visit Booth No. 9 in which the latest L-F diathermy and electrosurgical apparatus will be available for examination and demonstration. This year's exhibit features the "Office Bovie", an electrosurgical unit specially designed for office use. Capable representatives will be on hand at all times and we hope you will stop by so that we may become acquainted.

Booth No. 10

Peoples Drug Stores

Washington, D. C.

In our prescription rooms, we attempt to stock the many new pharmaceuticals, as well as the older preparations for which there is a demand.

Our display is made up of one or more items of each manufacturer having an exhibit at this meeting.

Everyone is invited to visit us at Booth No. 10.

Booth No. 11

Mead Johnson & Company

Evansville, Indiana

Amigen and Protolysate will be on display at the Mead Johnson exhibit. Mead Johnson has pioneered the amino acid field commercially; the products have been described in more than four hundred articles in the medical literature. Trained representatives will be at the Mead Exhibit to discuss details of the new amino acid products. Shown also will be Dextri-Maltose, Pablum, Pabena, Oleum Percomorphum and the other Mead Products used in Infant Nutrition.

Booth No. 12

The National Drug Company

Philadelphia, Pennsylvania

You are cordially invited to visit the booth of the National Drug Company. *Protinal Powder*—delicious, intact, protein carbohydrate mixture, recently accepted by the Council on Foods and Nutrition of the American Medical Association, and *Resinat*—anion exchange resin antacid and pepsin inhibitor will be the featured products. Samples and literature will be available at the booth. Representatives will be in attendance to answer inquiries concerning the above products as well as National's vast array of other pharmaceutical, biological and biochemical products.

Booth No. 13

Wm. P. Poythress & Company

Richmond, Virginia

The Wm. P. Poythress Company cordially invites you to visit Booth No. 13 which will feature (in addition to the well-established and familiar specialty preparations, Solfoton, Uro-Phosphate, Panalgesic, T C S, and Merpectogel) a new, highly potent, synthetic antispasmodic drug, *Trocinate,* a product of Poythress research. Literature, samples and information on all products will be yours for the asking.

Booth No. 14

Ortho Pharmaceutical Corporation

Raritan, New Jersey

Ortho cordially invites you to visit their exhibit at Booth No. 14. Featured will be the new *Ortho Kit,* a beautiful woven plastic, zippered bag containing Ortho-Gynol, an Ortho Diaphragm, and a Diaphragm Introducer. The entire line of Ortho gynecic pharmaceuticals will also be displayed. Ortho representatives will welcome the opportunity of discussing these products with you.

Booth No. 15

Camel Cigarettes

New York, New York

Camel Cigarettes will feature color slides of background data from their newest research. After weekly examinations of the throats of hundreds of men and women smoking Camel Cigarettes exclusively for thirty days, throat specialists reported "Not one single case of throat irritation due to smoking Camels."

Booth No. 16

Eli Lilly and Company

Indianapolis, Indiana

Your Lilly medical service representative cordially invites you to visit the Lilly exhibit located in space number 16. Many new therapeutic developments will be featured and literature on these products will be available. Visiting physicians will be aided in every way possible.

Booth No. 17

Winthrop-Stearns, Incorporated

New York, New York

Winthrop-Stearns extends a cordial invitation to visit its Booth No. 17, where representatives will be on hand to discuss the latest therapeutic contributions made by this firm. Featured will be Neocurtasal, sodium-free seasoning agent; Neo-Synephrine, well tolerated prolonged decongestive; Isuprel, new more efficient and convenient bronchodilator, Tablets for sublingual use, solution for inhalation; Mebaral, sedative and antiepileptic, produces tranquility without drowsiness.

Booth No. 18

J. B. Lippincott Company

Philadelphia, Pennsylvania

J. B. Lippincott Company presents an interesting and active exhibit of professional publishing. With the "pulse

of practice" centering in an advisory editorial board of active clinicians who constantly review the field, current and coming trends in medicine and surgery are known continually. On the studied recommendations of these medical leaders, Lippincott Selected Professional Books are undertaken.

Booth No. 19

The Baker Laboratories

Cleveland, Ohio

The Baker display is built around the six-step approach to optimum infant nutrition which leads to the picture of the happy mother and the healthy child. An adjusted protein, two carbohydrates, a modified fat, vitamins, soluble mineral salts and iron, coupled with simplicity of preparation and low cost, provide for complete nutrition and insure cooperation in the home. Baker's Modified Milk, liquid or powder, may be used interchangeably from birth to the end of the bottle-feeding period.

Booth No. 20

Physicians Products Company

Petersburg, Virginia

The exhibit of Physicians Products Company, Incorporated, will feature a display of the firm's twelve prescription specialty items. Trade size packages of each product will be displayed to show the attractive new style labeling which is now being used. Featured in the exhibit will be a novel display of the honey flavored sulfonamides which are manufactured by this firm. Several members of the sales department will be on hand throughout the meeting to welcome and talk with the physicians in attendance.

Booth No. 21

Abbitt Pharmaco

Newport News, Virginia

Although the newest of Virginia's Pharmaceutical Specialty Houses, Abbitt Pharmaco is making rapid strides with its products which have been received with enthusiasm by Virginia physicians.

Our exhibit will feature *Sodosulfas* which consists of sulfadiazine .25 gm., sulfamerazine .25 gm., and sodium bicarbonate .325 gm. Bellapenta tablets which consist of the alkaloids of Belladonna in combination with sodium pentabarbital—a logical combination without the cumulative barbiturate effect. Nasoton Viridis, an isotonic solution of ephedrine buffered with sodium citrate.

Booth No. 22

General Electric X-Ray Corporation

Richmond, Virginia

The General Electric X-Ray Corporation will exhibit their new direct writing Cardioscribe, model E Inductotherm and x-ray accessories. Representatives from Norfolk, Richmond, Lynchburg, Charleston, West Virginia, and Philadelphia will attend.

Booth No. 23

Holland-Rantos Company, Inc.

New York, New York

Medical service representatives will be pleased to show you the anatomically correct *Pelvi-Form* Clinical Teaching Model which provides an invaluable aid in visual demonstration, not only of diaphragm-jelly technique, but also for explaining gynecological abnormality or establishing surgical approach.

New package design of *Koromex* contraceptive specialties will interest you. Upon request, you can obtain samples of "Council-accepted" *Koromex Jelly* and *Cream,* and of *Nylmerate Jelly,* an effective trichomonacide that is inexpensive and convenient to use.

Booth No. 24

Doak Company

Cleveland, Ohio

Doak Company exhibits nationally recognized dermatological preparations including: *Salinidol* as indicated in treatment of ringworm infections including Tinea Capitis, Tinea Corporis and Tinea Pedis. *Buro-Sol* Powder (Doak) a soluble powder of Aluminum Acetate indicated as a wet dressing. *Tersus* an ideal soapless detergent used as skin and scalp cleanser in all cases intolerant to soaps, alkaline cleansers. Tersus is also indicated in treatment of acne. *Lotio Alsulfa* (Doak) is an activated colloidal sulfur lotion indicated in treatment of acne. *Heliobrom Lotion*—an astringent and antipruritic lotion indicated in treatment all irritated skin conditions including poison ivy, penicillin rash, pruritis ani and pruritus vulvae.

Booth No. 25

Tablerock Laboratories

Greenville, South Carolina

We invite the members of the Medical Society of Virginia to visit our exhibit during the meeting. Our representative will be glad to explain the line of prescription specialties we have to offer for your service.

Booth No. 26

Sharp and Dohme

Philadelphia, Pennsylvania

Visitors attending the Medical Society of Virginia meeting are cordially invited to visit the Sharp & Dohme exhibit in Booth No. 26. Stable, portable "Lyovac" Normal Human Plasma irradiated to destroy not only bacteria but also the viral contaminants that might cause homologous serum hepatitis merits your attention. Unusual specialties including the popular sulfonamide and antibiotic drugs also will be of major interest. Courteous attendants will be pleased to serve you.

Booth No. 27

E. R. Squibb & Sons

New York, New York

E. R. Squibb & Sons will feature new professional specialties. Also on display will be such widely accepted

products as Crysticillin, Tolserol, Rubramin, Amnestrogen and the Penicillin Dispolator.

The representatives in attendance will be pleased to discuss these and other Squibb products with you. Please visit Booth No. 27.

Booth No. 28

Powers & Anderson, Incorporated

Richmond, Virginia

Powers and Anderson will exhibit in Booth No. 28 the latest designs in physicians' office equipment, instruments and supplies. In attendance at the booth will be Robert E. Anderson, Jr., Charles T. Brown, Jr., H. C. Haun, E. G. Johnson, M. C. Thompson, and W. H. Wilkinson.

Booth No. 29

Charles C. Haskell & Company

Richmond, Virginia

Representatives will be in attendance to give information concerning our preparations. In addition to Belbarb, Hasamal, and other well known products, there will be on display for the first time *Alinese Suspension,* a combination of aluminum hydroxide gel and magnesium trisilicate, for rapid and prolonged relief from gastric hyperacidity. *Hasanone,* a new sedative expectorant, containing dihydrocodeinone bitartrate, also will be introduced. Mr. George J. Hulcher of Richmond, Virginia, will be in charge of our exhibit.

Booth No. 30

Doho Chemical Corporation

New York, New York

The makers of Auralgan are featuring at this meeting their new sulfa preparation O-*Tos*-Mo-San, indicated in the treatment and control of chronic suppurative ears.

Also, Mallon, Division of Doho, is introducing our new topical anesthesia, Rectalgan, for relief of pain and itching in hemorrhoids and pruritus. This new therapy enjoys many advantages over the outmoded suppositories and ointments.

Our representatives will be happy to explain in detail the workings of these medications.

Booth No. 31

The Valentine Company

Richmond, Virginia

The Valentine Company, Incorporated, is presenting several new products to the medical profession and has acquired a handsome and more commodious booth to display these items.

The booth is of natural polished walnut with louvre space indirectly lighted for the most effective presentation of the items exhibited. Above, the new Valentine trade mark is set in three-color plexiglas, carrying out the theme of the Company's redesigned packages.

Booth No. 32

Ciba Pharmaceutical Products

Summit, New Jersey

Ciba Pharmaceutical Products, Inc., invite you to visit their exhibit for latest information on *Priscoline* (formerly known as *Priscol*), a valuable adjunct to the treatment of peripheral vascular disease. *Pyribenzamine, HCL,* the antihistaminic drug for prevention and relief of anaphylaxis and many forms of allergy will also be featured.

Representatives in attendance will gladly answer any questions about these and other Ciba products.

Booth No. 33

Lederle Laboratories Division

AMERICAN CYANAMID COMPANY

New York, New York

You are cordially invited to visit our exhibit in Booth No. 33, where you will find representatives who are prepared to give you the latest information on Lederle products.

Booth No. 34

Zimmer Manufacturing Company

Warsaw, Indiana

The Zimmer Manufacturing Company, makers of quality Surgical Orthopedic Equipment, anticipates the pleasure of greeting many of their friends and patrons in Booth No. 34 during the meeting.

Mr. George Baxter and Mr. Ray Ervin, distributors in this area, will be on hand to demonstrate many new additions to the Zimmer line. Bring your fracture and orthopedic problems with you.

Booth No. 35

A. H. Robins Company

Richmond, Virginia

A. H. Robins Company, Inc., is exhibiting its entire line of ethical specialties, featuring the anti-arthritic *Pabalate* in both tablet and the new liquid form, and the recently introduced *Entozyme,* Robins' triple-enzyme digestant. Clinical samples and informational literature will be available.

Booth No. 36

VanPelt and Brown

Richmond, Virginia

VanPelt & Brown cordially invites the members of the Medical Society of Virginia to visit their booth, where clinical samples and descriptive literature of the V&B prescription specialties will be available. V&B announces the addition of Theobarb with Mannitol Hexanitrate to the Theobarb family, for the symptomatic treatment of hypertension.

Booth No. 37

G. D. Searle & Company

Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Dramamine for the prevention and active treatment of motion sickness; Alidase, for hypodermoclysis; Ruphyllin, for abnormal capillary fragility; Hydryllin, new and effective antihistaminic, as well as time-proven products as Searle Floraquin, Kiophyllin, Diodoquin, Pavatrine and Pavatrine with Phenobarbital.

Booth No. 38

Philip Morris & Company

New York, New York

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than any other cigarettes. Their representatives will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

Booth No. 39

Parke, Davis & Company

Detroit, Michigan

Members of the Parke, Davis & Company Medical Service Staff will be on hand at our exhibit for consultation and general discussion of the products classified in our Pharmaceutic, Antibiotic, and Biologic lines. Important specialties, such as Penicillin S-R, Benadryl, Vitamin Products, Hypnotics, Antibiotics, Etamon, Oxycel, Thrombin Topical, Influenza Virus Vaccine, and other Biologics will be featured. You are cordially invited to visit our Booth with the assurance that your interest will indeed be very much appreciated.

Booth No. 40

White Laboratories

Newark, New Jersey

At this booth will be an interesting display of this firm's products. Trained Medical Service Representatives in attendance will appreciate the opportunity to discuss with you the clinical background and therapeutic merit of the recent products of White's Research. You are cordially invited to visit this booth.

Booth No. 41

U. S. Vitamin Corporation

New York, New York

Exhibit demonstrates the greatest vitamin technicological advance of the present decade . . . "oil-in-water" multi-vitamin solutions . . . includes Vi-Syneral Injectable which makes available for the first time in pharmaceutical history an *aqueous* parenteral multi-vitamin solution, ready for immediate injection; also the *original oral* aqueous multi-vitamin formula; Vi-Syneral Vitamin drops . . . since 1943.

Professional samples and literature distributed on these two pharmaceutical "firsts" along with our full line of nutritional specialties, including Vi-Syneral capsules, Tri-Sulfanyl, Methischol, Poly-B, Vi-Litron, Vi-Syneral Therapeutic and others.

Booth No. 42

The Borden Company

New York, New York

A new improved better-than-ever *Biolac* is presented in Booth No. 42—better nutritionally and better physically. Unchanged are the dilutions, analysis, caloric values, vitamin fortification, and ease of feeding. This new improved Biolac, a liquid modified milk for infant feeding, brings to you the latest findings of nutritional science . . . at no increase in cost.

Likewise exhibited will be our long-established products for infant feeding: *Dryco, Mull-Soy, Merrell-Soule Special Milks,* general purpose *Klim,* and *Beta Lactose.*

Booth No. 43

Lanteen Medical Laboratories

Chicago, Illinois

Lanteen Medical Laboratories, Inc., cordially invites you to visit Booth No. 43. Representatives will be pleased to discuss an improved diaphragm fitting technic used in conjunction with the new improved *Lanteen Flat Spring Diaphragm* and *Jelly Set.* Other well known Lanteen products will also be featured in the exhibit.

Booth No. 44

C. B. Fleet Company

Lynchburg, Virginia

C. B. Fleet Company, Inc., cordially invites you to stop by Booth No. 44 for a short visit with Mr. Matthews, the representative who sees you in your office about once a year. Perhaps there is something about Phospho-Soda (Fleet), the pure, stable, aqueous concentrate of the two U.S.P. Sodium Phosphates, you would like to discuss with him.

Booth No. 45

A. S. Aloe Company

St. Louis, Missouri

One of our exhibitors will be A. S. Aloe Company of St. Louis, Missouri. They have recently opened a branch at 1501 14th Street, N.W., Washington, D. C., to serve the Virginia area. Their display will include surgical, medical and laboratory equipment and supplies with particular emphasis on the latest developments in physical therapy equipment and surgical instruments.

Booth No. 46

W. B. Saunders Company

Philadelphia, Pennsylvania

We invite all doctors attending the meeting to visit our exhibit where our representative, Mr. Earl Dunham, will display a complete line of our books including Hyman's "Integrated Practice of Medicine", Bockus "Gastro-enterology", Conn's "Current Therapy", Custer's "Atlas of Blood and Bone Marrow", Meleney's "Treatment of Surgical Infections", Crile's "Practical Aspects of Thyroid Disease", Levine & Harvey's "Clinical Auscultation of the Heart", Fine's "Care of the Surgical Patient", Lichtenstein's "Neuropathology", Boies' "Otolaryngology", new editions of Berens' "The Eye and Its Diseases", McLester's "Nutrition and Diet", Stieglitz' "Geriatric Medicine", Weiss & English's "Psychosomatic Medicine", and many others.

REPORTS FOR THE 1949 ANNUAL MEETING MEDICAL SOCIETY OF VIRGINIA

Executive Secretary-Treasurer

The Council of the Society held two meetings during the year—a special one on December 16, 1948, to consider the action taken by the American Medical Association with regard to the assessment of $25.00 on each member (pages 41 and 42, January 1949 MONTHLY), and the regular winter session on March 4 (pages 193-5, April 1949 MONTHLY).

There has been a large amount of office work, including the collection of the special assessment for the American Medical Association, the amount collected being $34,539.55 from 1,377 members—about 66⅔ per cent of the membership.

The number of component societies remains the same—48, representing 91 counties and 1 city. The Hanover County Medical Society has been reactivated, and reports indicate active meetings.

On the date of closing this report (August 1, 1949), the membership of the Society numbered 2,158, as compared with the same date in 1948—an increase of 35. A statement as to membership follows:

New Members	115	
Reinstatements	4	
		119
Deaths	41	
Resignations	30	
Dropped	13	
		84
Increase		35

This office has for sale Medicine in Virginia for the 18th and 19th Centuries, the price for these being $1.50 each. Medicine in Virginia for the 17th Century is still being handled by the publishers at the price of $2.75.

Dr. J. Morrison Hutcheson and Dr. H. B. Mulholland represented the Society at both the December and June meetings of the American Medical Association. The Society was informed that it would be entitled to an additional delegate, and the President, Dr. Rucker, appointed Dr. J. M. Emmett as delegate with Dr. M. H. Harris as alternate. The American Medical Association later advised the delegate could not act until January, 1950.

The Executive Secretary attended the interim session of the American Medical Association and the assistant secretary the June meeting.

Upon recommendation of the Society, Dr. W. J. Hagood has been re-appointed as a member of the Virginia State Board of Medical Examiners for a term of five years.

The Medical Society of the State of North Carolina, the Virginia Pharmaceutical Association, and the Virginia State Dental Association have been asked, as usual, to send delegates to this meeting.

The secretary reminded the various component societies of the annual plan adopted by the American Medical Association for honoring one outstanding general practitioner, each State being permitted to submit one candidate for this honor.

The President has advised of the following committee appointments: Dr. W. L. Weaver to succeed Dr. H. U. Stephenson, deceased, as chairman of the Industrial Health Committee; Dr. E. G. Gill as chairman of Committee on Conservation of Sight and Prevention of Blindness, with Dr. W. Wallace Gill and Dr. A. A. Burke as other members; a Grievance Committee composed of Dr. J. M. Emmett as chairman, with the assistance of Dr. W. L. Powell, Dr. Guy R. Fisher, Dr. H. B. Mulholland, and Dr. R. W. Miller.

Besides these appointments, Dr. Rucker named Dr. George A. Duncan, Dr. Carson L. Fifer, Dr. David S. Garner and Dr. Waverly R. Payne as additions to the Blue Cross-Blue Shield Committee. Dr. Guy Fisher was asked to represent the Department of Clinical and Medical Education on the Continuation Education Department of the two medical schools; and Dr. Staige D. Blackford and Dr. Walter P. Adams were named to serve on Dr. J. Powell Williams' Committee on National Emergency Medical Service.

Dr. Rucker also appointed Dr. C. L. Outland to serve on the Advisory Council to the Practical Nurse Association of Virginia for a year, and named Dr. Harold W. Miller as delegate to the Virginia Pharmaceutical Association this Spring.

Two months before the annual meeting, it would be impossible to give accurate figures as to the financial status but an audited statement will be presented at the annual meeting.

In closing, we wish to express appreciation to officers, committeemen, component societies and individual members for their consideration and cooperation given this office on all occasions.

AGNES V. EDWARDS,
Executive Secretary-Treasurer.

Delegates to A.M.A.

The House of Delegates of the American Medical Association convened at 10:00 A.M., June 6, 1949, at the Hotel Traymore, Atlantic City. Due, doubtless, in some measure to improved methods of procedure, business before the house was transacted expeditiously, no extra sessions were necessary, and adjournment was in order at 4:00 P.M. on June 9th.

Included in the report of the Board of Trustees was a recommendation to the House with regard to a matter that has for a number of years given delegates deep concern; namely, the activities of the Editor of the *Journal*, Dr. Fishbein. Recognizing his excellent qualities and his long and faithful service to the American Medical Association, and at the same time aware of the unfavorable criticisms that have resulted from his seeming assumption of authority, the Board proposed that the Editor confine his activities strictly to the discussion of scientific

subjects and refrain from dealing with controversial matters either editorially or in public appearances. Plans for training a new editor and the retirement of the present editor are under way. This recommendation of the Board was adopted by the House.

Of outstanding interest and the source of considerable discussion was the program of the association for promoting voluntary prepaid hospital and medical care. The proposal of the Council on Medical Service providing complete separation of the Associated Medical Care Plans and the American Medical Association and recognizing the former as an independent agency was approved. However, the A.M.A. continues to require compliance with certain principles before approval is given any plan. For lay-sponsored plans these principles are stated specifically and in detail in twenty points laid down by the Council on Medical Service after meetings between representatives of labor groups and the A.M.A. Any plan seeking approval must have the endorsement of its local medical association.

Progress in the field of public relations and the nationwide educational campaign was reported and addresses were heard by the House from Leone Baxter and Clem Whitaker, public relations counsel, who are heading the campaign, outlining the trends of publicity to be attempted and the means of accomplishment. The general plan proposed was approved by the House.

In answer to the oft repeated complaint that doctors have no constructive program for medical care, the House re-emphasized the twelve point program previously announced. This program for the advancement of the Nation's health, with point by point explanation, is being printed in a booklet that will go to every doctor and auxiliary member and will prove useful for reference. The implementation of this program will require constant attention and effort by state and local societies and by individual doctors.

A resolution was adopted expressing disapproval of a proposal now under consideration by Congress providing for the extension of Social Security to self-employed individuals including physicians. The House took the position that provision for the exigencies of old age is an individual matter which should be left to the decision of the self employed. So-called Social Security is in fact a compulsory tax which has not provided satisfactory protection for individuals where it has been tried out, but instead has served as the entering wedge for establishment of a socialistic form of governmental control over the lives and futures of the people. Private insurance companies offer a great variety of programs which are available to individuals according to their special requirements or desires.

The recent revision of the Principles of Ethics of the American Medical Association was presented to the House and adopted. Significant changes are those relating to groups and clinics, including contract practice, the section on educational information and the section on the purveyal of Medical Service. As now written experimentation in methods of practice is permitted beyond restrictions which formerly prevailed. However, the fundamental principle that the physician shall not dispose of his professional attainments or services under terms or conditions which permit exploitation of the services for the financial profit of a corporation or lay agency still obtains. The only type of contract practice specifically condemned is that which may result in deterioration of the quality of the services rendered. The Principles of Ethics as revised will shortly be available in booklet form.

Several resolutions concerning medical education were presented and the House of Delegates adopted those providing that graduate and post-graduate education for general practitioners should be made more widely available and that two-year rotating internships should be especially designed for those who wish to engage in general practice. The question of the distribution of internes again came up for consideration and a committee of five members of the House of Delegates, two of whom shall be general practitioners, was established to study the whole internship problem.

Approved by the House was the establishment of a permanent conference group between labor, management and the A.M.A. Council on Industrial Health to permit discussion of the extension of industrial medicine, to clarify the status of physicians and medical organizations in relation to industrial health activities, and to implement in other ways that portion of the A.M.A.'s broad program which deals with the health and welfare of workers.

The annual award for distinguished service to medicine went, after a close contest, to Dr. Seale Harris, of Birmingham, Alabama. Dr. Elmer L. Henderson, of Louisville, Kentucky, for some time chairman of the Board of Trustees, was chosen President-Elect, and Dr. James Francis Norton, of Jersey City, New Jersey, Vice-President. The Secretary, Dr. George F. Lull, Treasurer, Dr. Josiah J. Moore, Speaker, Dr. F. F. Borzell, and Vice-Speaker, Dr. James R. Reuling were re-elected, and to succeed Dr. Henderson as Trustee the House chose Dr. F. J. L. Blasingame, of Wharton, Texas. Dr. Guy C. Caldwell, of New Orleans, was elected to the Council on Medical Education and Hospitals to succeed Dr. Reginald Fitz, whose term had expired and who declined to stand for re-election. The House officially recognized by rising vote the outstanding service that Dr. Fitz has rendered for so many years on this Council.

The next annual session of the Association will be held in San Francisco in June, 1950, and the interim session in Washington, D. C., December 6-9, 1949.

J. MORRISON HUTCHESON
H. B. MULHOLLAND

Report of the interim session of the House of Delegates of the American Medical Association was printed in the February 1949 MONTHLY, page 94.

Publication and Program

The program which is published for the 1949 meeting is the report of the committee. The committee, however,

would like to take this opportunity to thank the members of the Society and the guests of the Society who have agreed to participate in the program and who have contributed to the JOURNAL.

The circulation of the VIRGINIA MEDICAL MONTHLY is now 2600.

WYNDHAM B. BLANTON
ALEX. F. ROBERTSON, JR.
M. P. RUCKER
ENNION S. WILLIAMS

Scientific Exhibits Committee

The exhibit space at the Chamberlin Hotel which was chosen for the 1949 meeting is excellent. A space 24x120 feet has been allocated for the Scientific Exhibits. With the approval of the House of Delegates and the Council, the same decorating firm which furnished the fixtures last year will again be employed. These are the same people who furnish exhibit booths for the A.M.A. The employment of this firm entails considerable expense, but insures a uniformity of appearance which is very attractive, and also furnishes facilities for the exhibitors which they have not had in the past. Those of us who have exhibited in the past, when we had practically to build our own viewing boxes, backboards, etc., were very hesitant to exhibit due to the effort entailed. Your committee has found very much less "sales resistance" on the part of potential exhibitors since the institution of the present facilities.

The Scientific Exhibits last year wound up with twenty-nine exhibits. At the date at which this is written for inclusion in the September VIRGINIA MEDICAL MONTHLY, there are fifteen exhibit applications already in hand, and based on past experience many more will come in before the time of the meeting.

Your committee wishes to commend the House of Delegates and the Council for their action in allocating sufficient funds to supply these excellent facilities.

W. AMBROSE MCGEE
CHARLES H. PETERSON
VINCENT W. ARCHER, *Chairman*

Legislation

The Legislative Committee has no formal report this year on account of the fact that the Legislature has not been in session.

W. C. CAUDILL, *Chairman.*

Medical Economics

The Committee on Medical Economics has had no questions or problems referred to it. For this reason, the Committee has not been called together.

The Chairman of the Committee feels that it would be wise to dissolve this particular Committee, and to form in its place a committee on medical service, to function along the same lines and in coordination with the Council on Medical Service of the American Medical Association.

WALTER B. MARTIN, *Chairman.*

Membership

TO THE HOUSE OF DELEGATES:

All members were admitted to the Society this year through component societies and are as follows:

Dr. John McL. Adams, Winchester.
Dr. William M. Anderson, Richmond.
Dr. Theodore C. Andrew, Norton.
Dr. Richard A. Bagby, Tampa, Florida.
Dr. William O. Bailey, Jr., Leesburg.
Dr. Thomas Beath, Richmond.
Dr. Bradford S. Bennett, Winchester.
Dr. James H. Bocock, Norfolk.
Dr. Robert F. Bondurant, Roanoke.
Dr. Sam C. Bostic, Chincoteague.
Dr. Stephen M. Bouton, Jr., Lynchburg.
Dr. Robert W. Bradley, Powhatan.
Dr. Raymond S. Brown, Gloucester.
Dr. James G. Bruce, Jr., Gordonsville.
Dr. Walter Buckner, Roanoke.
Dr. Samuel W. Budd, Richmond.
Dr. Andrew K. Butler, Newport News.
Dr. William E. Byrd, Norfolk.
Dr. Neil Callahan, Norfolk.
Dr. Earnest B. Carpenter, Richmond.
Dr. Christian V. Cimmino, Fredericksburg.
Dr. John L. Clare, Danville.
Dr. John R. Clark, Jr., Martinsville.
Dr. Jesse N. Clore, Jr., Orange.
Dr. Howe R. Coleman, Jr., Lynchburg.
Dr. Dahar Cury, Jr., Norton.
Dr. Charles E. Davis, Jr., Norfolk.
Dr. Harry L. Day, Richlands.
Dr. Arthur M. Dell, Williamsburg.
Dr. Pierson P. Deming, Colonial Beach.
Dr. Henry P. Deyerle, Harrisonburg.
Dr. William D. R. Driscoll, South Boston.
Dr. Isaac C. East, Williamsburg.
Dr. William N. Eddy, Suffolk.
Dr. Nathaniel McG. Ewell, Jr., South Boston.
Dr. Leslie A. Faudree, Bassett.
Dr. Ponziano P. Ferraraccio, Bluefield.
Dr. Willard M. Fitch, Richmond.
Dr. Newland W. Fountain, Roanoke.
Dr. William P. Frazer, Purcellville.
Dr. Richard W. Garnett, Jr., Charlottesville.
Dr. James T. Gianoulis, Richmond.
Dr. John Russell Gill, Mathews.
Dr. Donald L. Greever, Chilhowie.
Dr. Russell L. Haden, Crozet.
Dr. Herbert D. Hebel, Charlottesville.
Dr. Robert A. Hoffman, Richmond.
Dr. Charles A. Hudson, Alexandria.
Dr. Charles B. Hughes, Wytheville.
Dr. Julius C. Hulcher, Richmond.
Dr. James B. Hutcheson, III, New York City.
Dr. Randolph M. Jackson, Richmond.
Dr. Reverdy H. Jones, Jr., Roanoke.
Dr. Henry W. Judd, Mineral.

Dr. Robert D. Keeling, South Hill.
Dr. Harold Keen, Clinchco.
Dr. Claude K. Kelly, Mechanicsville.
Dr Jefferson D. Kernodle, Alexandria.
Dr. C. Cameron Kress, Orange.
Dr. Wieman H. Kretz, Newport News.
Dr. Meyer I. Krischer, Norfolk.
Dr. John G. Kroll, Charlottesville.
Dr. Harry B. LaFavre, Virginia Beach.
Dr. Ralph R. Landes, Danville.
Dr. Leonidas R. Littleton, Jr., Leona Mines.
Dr. Michael Littner, Richmond.
Dr. Charles E. Llewellyn, Jr., Richmond.
Dr. John J. Marsella, Danville.
Dr. George S. Maxwell, Roanoke.
Dr. Charles E. S. McKeown, Richmond.
Dr. John D. Middlemas, Orange.
Dr. John R. Morris, Jr., Charlottesville.
Dr. William P. Morrissette, Midlothian.
Dr. Lloyd F. Moss, Fredericksburg.
Dr. George H. Murphy, Winchester.
Dr. John C. Neale, Jr., Richmond.
Dr. John O. Nestor, Arlington.
Dr. James A. Newcome, Roanoke.
Dr. Keith M. Oliver, Purcellville.
Dr. Franklin L. Overton, Jr., Portsmouth.
Dr. Ben T. Painter, Williamsburg.
Dr. William A. Pennington, Buckingham.
Dr. Woodbury Perkins, Charlottesville.
Dr. Merle E. Pickett, Raphine.
Dr. John B. Poore, Rocky Mount.
Dr. Francis W. Porro, Roanoke.
Dr. Charles D. Prather, Leesburg.
Dr. Frank W. Reynolds, Richmond.
Dr. Walter Riese, Richmond.
Dr. Louis P. Ripley, Roanoke.
Dr. William H. Rogers, Suffolk.
Dr. George R. Rosenbaum, Richmond.
Dr. William C. Schaefer, Alexandria.
Dr. McKelden Smith, Staunton.
Dr. Stuart C. Smith, Charlottesville.
Dr. Russell N. Snead, Columbia.
Dr. George E. Snider, Richmond.
Dr. John Edgar Stevens, Richmond.
Dr. Adney K. Sutphin, Richmond.
Dr. Herbert W. Swertfeger, Virginia Beach.
Dr. John F. Thornton, Jr., Winchester.
Dr. Frederic P. Titus, Alexandria.
Dr. Thomas C. Todd, Bristol.
Dr. Philip C. Trout, Roanoke.
Dr. Dougas D. Vance, Bristol, Tennessee.
Dr. Asa William Viccellio, Danville.
Dr. John T. Walke, Roanoke.
Dr. Frederick J. Wampler, Lima, Peru.
Dr. Edgar N. Weaver, Charlottesville.
Dr. William J. White, Arlington.
Dr. Armistead D. Williams, Richmond.
Dr. Carrington Williams, Jr., Richmond.
Dr. George H. Williams, Petersburg.
Dr. Guy Zimmerman, Mt. Sterling, Kentucky.
Dr. William H. Zimmerman, Keokee.

The names of deceased members will be presented to the Society at the Monday evening meeting.

Your Committee takes pleasure in recommending for Honorary Membership our distinguished retiring president, M. Pierce Rucker.

A. M. SHOWALTER, *Chairman*
B. E. HARRELL
J. BOLLING JONES

Ethics

Several grievances were brought to the attention of the Ethics Committee during the past year. They were of minor and personal nature and it was felt that they could best be handled locally. The principals involved and their respective Medical Societies were given the facts and our opinion. Nothing further was heard from them and it is assumed that they were satisfactorily adjusted.

The creation of a Grievance Committee by the Medical Society of Virginia and each of its component Societies should leave little for the Ethics Committee to do. The Committee feels that the Committee's existence might well be terminated.

K. D. GRAVES
M. H. HARRIS
J. L. HAMNER, *Chairman*

Report of Judicial Committee

Your Committee has carefully considered the merits and implications of the enclosed proposal and recommends that it be made an amendment to the Constitution and by-laws.

ARTICLE IX, SECTION 9—STANDING COMMITTEES
GRIEVANCE

The Committee on Grievance shall review problems or misunderstandings arising between doctors and patients. The committee shall be composed of five active past presidents of the Medical Society of Virginia, the chairman to be appointed from among this number by the president of the Medical Society of Virginia. Any three members of the committee may be designated by the chairman to act as the reviewing panel to hear a particular case.

Charges shall be submitted to the chairman of the Grievance Committee in writing. The committee shall have jurisdiction over those cases which are appealed from the decisions of the Grievance Committees of the County or Component societies, and in cases of alleged grievances originating in areas in which there is no functioning county society, or in instances where the county Grievance Committee has not been appointed or does not function.

The chairman shall call a meeting of the Grievance Committee at his discretion or upon written request of any three members of the committee. Three members shall

constitute a quorum for the transaction of business or the hearing of cases. The time and place of the meeting shall be designated by the chairman. Hearings shall be conducted in private with both the complainant and the defendant present, and both shall have the privilege of counsel if either or both so elect. Previous written notice, mailed by registered, return receipt letter, shall be sent both parties at least fifteen days in advance of the meeting date, designating the time and place of the meeting. A panel committee of at least three members of the Grievance Committee shall be required for hearings. The complainant, the defendant, and the chairman of the Grievance Committee shall have the right to summon witnesses. If both the claimant and the defendant so elect in writing, the hearing may be based entirely on the written allegation of fault, and the written defense.

Decisions of the Grievance Committee shall be by two-thirds vote. The decision shall determine the guilt or innocence of the accused and, if guilty, shall reprimand the offender. If indicated by the seriousness of the situation or practices involved, the case shall be referred to the Ethics Committee for appropriate action.

The Grievance Committee shall have authority to evolve its own rules of procedure. Expenses of the Grievance Committee incurred in the performance of the duties herein outlined shall be paid out of the general funds of the Medical Society of Virginia. Expense accounts shall be submitted by the chairman of the committee to the treasurer of the Medical Society of Virginia.

P. ST. L. MONCURE
HUGH H. TROUT
J. MORRISON HUTCHESON, *Chairman*

Public Relations and Medical Service

In making this report, your committee is conscious of its responsibilities in connection with the policies, program, specific activities, budget and personnel of the department of public relations.

In discharging these responsibilities, your committee has made every effort to solicit the advice and guidance from groups and individuals within the Society, with the view of incorporating these in our functional program.

Perhaps no other committee of the Medical Society of Virginia meets more frequently to discuss matters of its concern or gives any more time to the consideration of detailed items of a public relations nature.

While regular meetings are scheduled, frequently inviting in other officers of the Society and leaders in the medical profession, each member of the committee is called upon from time to time for advice to the department. Five regular meetings were held during the current year.

In construing medical public relations to be those functions that bring into ever closer focus the points of view held by the medical profession and those held by the lay-public to the end that high quality medical care is made available to more of our people who need it, your committee is naturally concerned with the service attitude on the part of the doctor and understanding on the part of the public of some of the problems of medicine and professional relations that exist between and among doctors.

The general pattern of our program for the past year has for the most part, been very similar to that of the past. As in any program of public relations, revision, innovations and new devices appear to be desirable. It is sometimes difficult for the committee to determine six, nine, to twelve months in advance just what should be done, exactly what means should be employed or what the employment of those means would cost to the penny. But your committee is pleased to report that it believes that your program has been sound, reasonably progressive and alert to day to day items, circumstances and conditions that should be observed.

Recognition of your organizational set-up and of your public relations program itself has come from many states. We point with pride to the references made by the officials of the American Medical Association to what has been done and to what is being done in Virginia in this regard. The head of the Public Relations Department of the American Medical Association has stated publicly that if every state medical society were as well organized and had in operation such a program of public relations as Virginia, we could worry less over reaching our objectives.

If you will read pages of references and see the exhibit in the public relations bulletin put out by the American Medical Association on the work in Virginia, it will perhaps help you better get a concept of what others think of what we are doing.

One distinct departure this year is represented in an effort to have your program fit in with the National Education Campaign sponsored by the American Medical Association. This has required planning, organizing and detailed effort.

The President of the Medical Society of Virginia has appointed as director of this campaign, Dr. John T. T. Hundley, Lynchburg, with the understanding that the Public Relations Department would be used in any manner deemed advisable in this connection. It naturally follows that the department has been concerned with resolutions opposing compulsory health insurance, speakers bureaus, public relations committees of local medical societies, the distribution of posters, literature and information.

To date, every request for literature has been filled and every opportunity for a speaking engagement has been sought and accepted. This is a program well begun this year which is to continue certainly over the latter part of next year.

A Public Relations exhibit is being planned for the Virginia Education Association convention in November and for other state conventions during the year.

The Committee, upon the endorsement of the Council has been interested in the establishment of grievance committees for local medical societies and for the state. The state grievance committee will be ready to report to the House of Delegates on the matter in October. Much criticism has been heard in the past over the lack of unity

of thinking and the individual efforts of the members of the medical society as such. Athough encouraging progress is noticeable in the improvement of this, there are still those who feel very strongly that the development of an esprit de corps within the society is one of our greatest professional relations problems.

Someone has pointed out that the fine relationship between our specialists and general practitioners is one that we must not lose at any cost.

The committee feels that the extension of prepayment medical care and hospitalization, should be one of our most important objectives; it believes that more frequent meetings of local medical societies than is found in some instances is highly desirable; it feels that a special meeting in each local medical society during the year is important. The committee, is conscious of the value of featuring the socioeconomic aspects of medicine at this special meeting, to which members of other professions, business, the Church, the school and civic groups should be invited.

Public Relations Committees have been appointed in many of the larger local medical societies, speakers bureaus are being set up, literature is being distributed, posters are being placed in hospitals, drug stores, etc., materials are going to public libraries as well as those of higher institutions of learning, and they will also be sent to high school libraries in the early part of the 1949-1950 school session.

In reporting this progress, the committee wishes to thank the officers of the state society and of local medical societies as well as interested individual members who have been so interested and helpful in your public relations program.

A reference is made below to some of the specific activities of the department during the last year.

1. Annual Public Relations Conference, January 15, to which the Council and all Members of the District Council were invited. Ninety-seven presidents or leaders of local business and civic groups were asked in for the afternoon session to hear eminent speakers, including a U. S. Senator (who was introduced by the Congressman of this District). These two speeches are recorded and available.
2. Copy of Lawrence Sullivan's book, "The Case Against Socialized Medicine" was sent to the Council and Members of the District Council and to any local medical society requesting it.
3. Copy of Senator Robertson's speech was sent to every member of the Medical Society of Virginia.
4. Memoranda were sent to all officers of the Women's Auxiliary on the educational campaign in cooperation with the President of the Women's Auxiliary.
5. Report No. 5 of the Virginia Council on Health and Medical Care was sent to all Members.
6. A kit of materials mainly concerned with the educational campaign and the public relations materials was provided.
7. Specific suggestions were given to members of the District Council and letters to the full membership pertaining to the education campaign were sent.
8. Contact was made with delegates to National Conventions such as the National Federation of Woman's Clubs and the National Congress of Parents and Teachers.
9. Conferences for members of the District Council were held in each district except the 7th and 8th Congressional Districts.
10. A dinner conference with our Senators and Congressmen in Washington was arranged.
11. Speaking engagements (including two state medical societies outside of Virginia) and the Middle Atlantic Conference, Philadelphia; more than twenty medical societies and over fifty talks to professional, business, civic, fraternal and church groups, including annual convention of the Virginia Pharmaceutical Association, indicate other activities.
12. A Newsletter was developed.
13. A Public Relations Department has been arranged in the VIRGINIA MEDICAL MONTHLY.
14. Much time has been spent with the Veterans Affairs Committee and the Committee on Applications in the Veterans Medical Care Program.
15. There were frequent communications with our Congressmen and Senators in Washington, as well as communications with them on current legislation, such as opposition to compulsory health insurance, HR 2892 and 2893 and Senate Bill 1411, etc.
16. Letters, posters and literature were sent to all Pharmacists, with a plan for their distribution.
17. Letters and posters were sent to all hospital administrators.
18. Work with the Committee to Survey Areas in Need of Doctors has been under way.
19. Participation in the work of the Governor's Economy Advisory Committee has taken time.
20. We have been interested in the Promotion of Blue Shield and Blue Cross.
21. We have been active in the work of the Virginia Division of the American Cancer Society.

In making this rather detailed report, it is the concensus of the committee that it serves the purpose best as a joint report from both the committee and the Department of Public Relations, the budget being presented elsewhere, with the budget of the Society. The Committee also wishes to pledge their best efforts to a sound program of progress, and they wish to suggest, as someone has well said, that it is now apparent that this whole problem of government or political medicine is not a problem alone of the medical profession, but one of society. It naturally follows that we should invite and engage the interest of other professions, business, the Church, the school and civic groups in all out effort to defeat once and for all, any American inclination toward the acceptance of socialism.

This does not mean that any doctor of medicine can afford to think of it as a battle for someone else. We

have the happy privilege of leading in this and we must have the help of all if we are to succeed.

Respectfully,

J. M. EMMETT, *Chairman*
H. B. MULHOLLAND
L. J. ROPER

Educational Program

Under the supervision of the Public Relations Committee of the Medical Society of Virginia, and with the constant and able assistance of Henry S. Johnson, Public Relations Director, I have been serving as Virginia Chairman of the Educational Program of the A.M.A.

After consultation with the Council and the Public Relations Committee, it was decided to use the existing organization of the Medical Society of Virginia and the local societies, rather than to create a new organization for the purpose. Efforts have been made to strengthen the organization where necessary. In the main there has been full and effective cooperation.

Believing that the Medical Society of Virginia had already established a foundation for an effective program, no drastic changes were made. Renewed emphasis was placed on Public Relations meetings in the local societies and in every District. Efforts were made to have active Public Relations Committees appointed in every Society. The appointment of interested and energetic District Councilors was stressed. Arrangements for Public Relations meetings with lay participation was emphasized. Speakers Bureaus were organized and efforts made to get speakers before lay groups. Lay and medical organizations were encouraged to pass resolutions opposing Compulsory Health Insurance legislation. Friendly contacts were made and maintained with our Senators and Congressmen, and letters and resolutions to our representatives were encouraged from organizations and individuals. Printed materials of a wide variety were made available to the medical profession and the laity.

In a quiet, but we believe, effective way, much has been accomplished. However, it should be realized that our efforts have won an armistice, but not the war. The fight must go on, and will be won only if every doctor and every organization can be made to realize that the campaign is an educational one, that is designed to preserve our American way of life and to prevent the inroads of alien philosophies which destroy individual initiative, and would substitute for it the planned economy of the Welfare State.

I beseech from you continued, renewed, and even more effective cooperation. We are fighting for ourselves, but more importantly, we are fighting for a "way of life" which will determine the pattern of American life for generations to come.

JOHN T. T. HUNDLEY,
State Educational Chairman.

Mental Hygiene

This Committee has had no meetings and, therefore, has no report to make.

JAMES B. PETTIS, *Chairman.*

Rural Health

This Committee has had no meeting and there is no report.

H. B. MULHOLLAND, *Chairman.*

Maternal Health

The Maternal Health Committee met at the Academy of Medicine, Richmond, Friday, January 21, 1949. Those attending were: Dr. Walter McMann, Dr. G. N. Carter, Dr. A. L. Carson, Jr., Dr. A. M. Groseclose, Dr. L. L.

Infant Mortality
By County of Residence of Mother
Virginia: 1947

Maternal Mortality in Virginia

(Average Annual Rates for 5-Year Period 1943-1947)

Cities of 10,000 and over (not shown on map above)

Rate Less than 2		Rate 2 to 4		Rate 4 to 6
Alexandria	Martinsville	Danville	Petersburg	Suffolk
Bristol	Staunton	Fredericksburg	Portsmouth	
Charlottesville	Waynesboro	Newport News	Richmond	
Lynchburg	Winchester	Norfolk	Roanoke	

Shamburger. Dr. McMann was elected acting chairman when Dr. M. P. Rucker reported that Dr. Andrews would be absent from the meeting. Dr. Shamburger acted as secretary.

The secretary reported that there were 148 maternal deaths in Virginia during the year 1947 with a rate of 1.7 per 1000 live births as compared with a rate of 1.6 for the United States. During the first eleven months of 1948 there were 100 maternal deaths in Virginia. The leading causes of deaths were: Septicemia—44, Toxemia —38, and Hemorrhage—36.

Following a discussion of the survey of maternal deaths now being carried on by mail it was decided that:

1. The survey as now conducted be continued.
2. A Committee be appointed to select a suitable case for an occasional report in the VIRGINIA MEDICAL MONTHLY. Lack of sufficient clerical help has curtailed the work in this survey.

Infant mortality as shown on the accompanying map by the county of residence of the mother reveals a rate of less than 25 to more than 50 with a state rate of 37 per 1000 live births.

The average maternal mortality rate in Virginia covering a five-year period shows many counties with less than 2 and a rather small number with more than 6 deaths per thousand live births.

The Committee approved the resurvey of hospitals for license under the Maternity Hospital Law.

Forms now in use for summarizing the obstetrical services of hospitals in other areas are to be submitted for examination and study at the next meeting of the Committee. This is to be done with the possibility of having a brief report from the obstetrical service of hospitals in Virginia.

The Emergency and Infant Care Program, financed by the federal government and administered through the Bureau of Maternal and Child Health of the State Department of Health is to be discontinued as of April 8, 1949, insofar as authorizing cases is concerned. During the period of its operation since August 1943, 30,495 obstetric and pediatric cases received medical and hospital care with an approximate expenditure of $1,500,000 in Virginia.

WALTER MCMANN, *Acting Chairman.*

Child Welfare

This Committee has not had a formal meeting. By correspondence it has considered various phases of child care problems, and submits the following report, based largely on data collected in the American Academy of Pediatrics' Survey of Child Health Services.

The study of available facilities for medical and health care of children in Virginia, shows that although much progress has been made, many deficiencies and inequalities still exist. Within the state there are wide variations in the availability of medical care in different localities. The deficiencies are most striking in the isolated rural counties.

PHYSICIANS' SERVICES IN PRIVATE PRACTICE

The number of children per physician in Virginia is thirty-five per cent greater than the average for the United States. There are approximately twice as many children per physician in the rural counties as there are in the metropolitan ones. Nearly three-fourths of the medical care received by children in Virginia is provided by general practitioners. They also provide sixty-seven per cent of the total visits for health supervision of children, but less than one-third of their services to children is for this purpose. Compared to this, nearly two-thirds of the pediatricians' service to children is for health supervision. Since health supervision covers the broad aspects of preventive medicine, as well as specific immunizations, it seems highly desirable that physicians in general practice be encouraged to take more interest in routine examinations and health supervision of children, as well as in more universal use of specific immunizations against whooping cough, diphtheria, tetanus, smallpox and typhoid fever. Education of the public in regard to the above procedures is also important, since the need for these preventive measures far exceeds the demands and available services too often are not utilized.

It is believed that the establishment of hospital and laboratory facilities within the reach of rural counties will do much to relieve the present shortage of physicians in these areas.

COMMUNITY HEALTH SERVICES

Many counties have no well-child conferences, no school medical services and no public health nurses. In clinics where routine immunizations against specific diseases have been the policy, many of those attending are not immunized at all, or the immunizations are not completed. There is need for education of the public as to the importance of these immunizations. Not only should the public be better informed, but the number of well-child clinics for the supervision of medically indigent children, from the ages of 1 month to 5 years, should be increased, and so distributed as to be within the reach of all those needing this service.

There is need for extension of programs for the examination of pre-school and elementary school children by private physicians, and, in the case of the medically indigent, by public health agencies, with immunizations and correction of defects being carried out when needed.

RHEUMATIC FEVER

The rheumatic fever program organized within the State Health Department in 1941 and operating under the Crippled Children's Bureau has gone forward in a constructive way. Through the work of these clinics many previously unsuspected cases of rheumatic heart disease have been brought to light and given appropriate care. It is highly desirable that the rheumatic fever program be extended to cover all localities within the state and also that more provision be made for the hospital or convalescent home treatment of convalescent cases of rheumatic heart disease.

HOSPITAL FACILITIES

Virginia is below the average for the United States in the number of hospital beds relative to child population (9.3 beds per 1000 children compared to 12.8 for the United States). This shortage is most striking in isolated rural counties.

An increase in hospital beds is needed if children are to receive adequate hospital care. It is recommended that in any new hospital construction, whether private or public, provision be made for an equitable proportion of beds for children, non-white as well as white.

There is a deplorable lack of facilities in the state for the care of mentally defective children. This group of hopelessly defective and incurable children have a disrupting influence on the family life. The effort to provide for them often results in the lack of proper physical care of normal children in the family, and the presence of defectives in the home is apt to have a most unfavorable effect on the emotional life of normal brothers and sisters. It is recommended that the state make further provision for the custodial care of this unfortunate group.

PREMATURE INFANTS

Since prematurity accounts for about half of the neonatal deaths in the state, the importance of better care for these infants is evident. The Bureau of Maternal and Child Health has been active in its efforts to improve facilities for the care of premature infants, and much progress has been made. To further implement the program there is need for increased facilities for training graduate nurses for this highly specialized type of care.

The American Academy of Pediatrics, through its Committee on the Fetus and Newborn is endeavoring to improve the standards of hospitals care of newborn and premature infants. In Virginia a sub-committee has been appointed to promote this objective, not by any dictatorial policy, but by an educational program aimed at stimulating interest and ultimately improving the hospital care of these infants.

The support and cooperation of the medical profession in this program will go far toward improving existing conditions.

DENTAL SERVICE FOR CHILDREN

There is a close correlation between good health and good teeth. A dental health program to be effective should be educational and corrective. Every effort should be made to have children see their dentist at an early age and emphasis be placed on prevention, as well as on early correction of defects.

More provision should be made for dental care of indigent and semi-indigent children, preferably, in connection with the school health program. At the present time such facilities are grossly inadequate.

FUTURE OUTLOOK

It is believed that improvement in child health services will evolve gradually with the enlightenment of the public and the medical profession regarding the needs that now exist, and the creation of an interest in the promotion

of better health. The number of physicians and dentists has increased since the war. There has been expansion of public health nursing and school health programs, as well as a large increase in the number of counties with full time health departments.

Cooperation of practicing physicians and the public with official agencies will go far in the promotion of their common objective in the field of child health.

JAMES B. STONE, *Chairman*
EMILY GARDNER
J. M. BISHOP
W. W. WADDELL, JR.
E. A. HARPER
H. H. HENDERSON
C. C. POWEL
CHARLES P. BROWN

Confer with State Board of Nurse Examiners

I wish to state that there has been no occasion for a meeting of this committee. As a result there is no report to be made.

FRANK S. JOHNS, *Chairman.*

Venereal Disease Control

The Committee of "Venereal Disease Control" appointed by the President of the Medical Society of Virginia wishes to make the following report to the President and the House of Delegates of the Society. This committee met in Richmond on July 29, 1949.

Scientific knowledge in the fields of diagnosis and therapy of most of the venereal diseases has now reached a state whereby most of these abnormalities can be completely eradicated. The effectiveness and ease of administration of modern preparations of penicillin should, if applied in a widespread way, completely solve the problem of acquired and congenital syphilis. The effectiveness of penicillin and other antibiotics in gonorrheal infections is in some ways more miraculous. The handicapping and persistent infection, granuloma inguinale, is now easily cured with either streptomycin or aureomycin.

Agents available at the present time in the management of lymphopathia venereum and chancroidal infection are not so effective as the above; however, with proper management these conditions can be modified. There have been conflicting reports in regard to the effectiveness of aureomycin in lymphopathia venereum. It was hoped that since this disease is due to a virus that one of the newer antibiotics used in the treatment of this group of diseases might be effective.

The medical profession of the state of Virginia should use to the fullest extent their influence and knowledge in taking the leadership in the proper management and final stamping out of these transmissible diseases.

An important item in increasing the physicians interest and efficiency in this field of medicine would be to have special graduate seminars on the diagnosis and management of the venereal diseases in several districts of the state at intervals during the year. These continuation educational meetings could be arranged in collaboration with the State Health Department. There is scheduled such a meeting in Roanoke for December 5th, 6th and 7th this year.

We also recommend that the State Medical Society request the State Health Department to furnish penicillin in the treatment of infectious syphilis and acute gonorrhea and streptomycin in the treatment of granuloma inguinale to the physicians of the state. This, of course, would require an increased appropriation of funds by the State Legislature, or the rearrangement of the allotment of funds now available.

The effectiveness of penicillin in the prevention of hereditary syphilis, even in the late stages of pregnancy is so outstanding that we believe that every effort should be made to recognize syphilis in the prospective mother and follow this with adequate treatment. This purpose could be facilitated if the State of Virginia had a reasonable law requiring the physicians and others seeing pregnant women to procure serologic tests for this disease at the time of their first observation of the patient, or shortly thereafter. There are thirty-six states in this country who have already enacted prenatal laws. This Committee would like to request that the officers and members of the House of Delegates of the Medical Society of Virginia recommend to the legislature of the State of Virginia that such a law be enacted. This Committee and the Committee on Child and Maternal Welfare should act as consultants with members of the State Legislature in the preparation of such a statute.

After careful study, this Committee feels that the premarital law has served a very useful purpose in the fields of preventive medicine and education.

D. C. SMITH, *Chairman*
W. W. S. BUTLER
E. M. HOLMES
JOHN L. JENNINGS
R. W. FOWLKES
M. S. FITCHETT
JAMES W. LOVE

Tuberculosis

This is the fortieth anniversary of the opening of a sanatorium in this State for the treatment of tuberculosis. We thought it worthwhile to give a summary of what has been accomplished during that period. Since, unfortunately, there has not been a complete follow-up system of the patients after they have been discharged from the sanatorium, we will have to base our information from the discharge notes.

Virginia has three institutions for the treatment of tuberculosis: Catawba, Blue Ridge and Piedmont. Catawba opened its doors for the reception of patients on July 30, 1909, with a capacity of 30 patients. It was located in the Catawba Valley, about 20 miles northwest of Roanoke on the site of Roanoke Sulfur Springs Hotel. It is well situated to serve the southwest portion of the State. This had formerly been used as a health resort. A pavilion type of building with four tents was used to accommodate the patients. The institution has been grad-

ually enlarged over the years until in 1942 it had a capacity of 400 patients. The heaviest load was reached June 30, 1942, with a daily average of 385 for the previous twelve months. It became necessary after this date to begin curtailing the number of admissions for two reasons. First, the old original buildings had become unsuitable for the modern treatment of tuberculous patients; secondly, the shortage of help, both professional and civilian. The present capacity is around 300 patients.

Since the Office of Vital Statistics was not opened in Virginia until 1913, we must base our records from this date. We had 3,591 deaths from tuberculosis in that year, with a rate of 167.5. The white rate was 117.1 and colored 276.5.

The last annual report from Catawba was June 30, 1948. Since the opening of the institution in 1909 there have been 16,553 patients treated and discharged from the sanatorium. The classifications of patients discharged were as follows: minimal, 15 per cent; moderately advanced, 25 per cent; far advanced, 60 per cent. Of the minimal cases, probably 80 per cent may look for recovery; of the moderately advanced cases 50 per cent may expect to obtain good permanent results. Under the new building program, the capacity will be increased to 500. These new buildings will be of the modern hospital type of construction. All old pavilions will be abandoned. Catawba Sanatorium also carries on a nurse training program and maintains a rehabilitation staff.

Realizing the need for another sanatorium in the State for the treatment of tuberculosis, the General Assembly in 1918 levied a special tax known as the "Mill Tax" whereby funds would be available for the erection of another institution. A site near Charlottesville was finally selected because of its proximity to the University of Virginia. This was to be called Blue Ridge Sanatorium. Construction of the sanatorium was started during the summer of 1919, and on April 26, 1920, it was opened for the reception of patients with a capacity of 120 beds. They were still adhering to the old pavilion type of construction and had three pavilions of 40 beds each. It soon became necessary to enlarge the institution, so in 1922 an infirmary was built with a 50-bed capacity, making a total of 170 beds. In 1925 work was begun on a Children's Unit consisting of a 40-bed pavilion. This was opened in April, 1926, for the treatment of children with early forms of childhood tuberculosis. A school is maintained for the children by the State Department of Education. The Grand Lodge of Masons in Virginia in 1927 erected a building known as the "George W. Wright Memorial Pavilion" and presented it to the State for the treatment of Masons in the State with tuberculosis. This building was of the infirmary type, fire-proof construction, with a 60-bed capacity, and increased the capacity of the Sanatorium to 270.

The demand for more beds continued to increase. In 1939 a 100-bed fire-proof infirmary and culinary department were completed which brought the capacity to 370 beds.

Blue Ridge Sanatorium maintains a Training School for Nurses, giving a two-year course. To date 190 nurses have been graduated. The third year is usually given at the University of Virginia Hospital or Medical College of Virginia hospital. Third year medical students from the University of Virginia come to the Sanatorium for a course of instruction in the diagnosis and treatment of tuberculosis.

Realizing the part surgery plays in the restoration to health of people suffering with tuberculosis, an arrangement was worked out several years ago whereby patients who came to the University of Virginia Hospital for this work from Catawba, the municipal sanatoria, or from their homes in the State, could be transferred to Blue Ridge for a period of convalescence between stages and following completion of surgery until they were in condition to return to their respective places. This plan releases beds available at the hospital for thoracic surgery in a relatively short time, and enables more people to have this service. To date approximately 250 patients have been cared for in this manner.

In 1940 Blue Ridge decided to admit pregnant women with tuberculosis. These cases are given the usual required treatment until they come to term, then are sent to the University of Virginia Hospital for delivery, following which they return to the Sanatorium to continue their treatment, but the child must be taken by the family or some social agency.

In 1937 an Adult Education Program was started, and at present, in addition to the teacher in the Children's Building we have two teachers with the Adult Education and one Rehabilitation Counselor. These people play an important part in the treatment schedule of the patients, and their services are continually growing.

Since the opening of the Sanatorium on April 26, 1920, through May 15, 1949, 11,275 patients have been admitted, and 10,949 discharged with the following results: Arrested—360; Apparently Arrested—644; Quiescent—2402; Improved—5208; Unimproved—834; Died—663; and 842 were classified as "Untreated", that is, remained in the Sanatorium less than 28 days.

At the last session of the General Assembly of Virginia, there was an appropriation of $8,500,000 for remodeling and expansion of the three sanatoria, and for the construction of a second institution for the treatment of negroes. This money was fairly evenly distributed among the three existing sanatoria with about $2,500,000 set up for the new negro institution to have a bed capacity of 250 to 300. New construction is at present well under way at the three sanatoria, and architects' plans are being prepared for the new negro sanatorium.

This program will entirely change the present outmoded facilities to those of new modern up-to-date hospital type of buildings suitable for the treatment of ill patients. About 80 per cent of the beds will be in structures of the infirmary type.

Tuberculosis in the Negro race has been, and still is, one of our greatest problems. The mortality rate in 1913

was 276.5 per 100,000, reaching a peak of 309.9 in 1918. Seeing the dire need of a place to treat negroes suffering from tuberculosis, Dr. Ennion G. Williams, the State Health Commissioner, with the help of a few interested negro citizens and the Negro Organization Society, after several years effort, succeeded in obtaining an appropriation for the construction of a Sanatorium for negroes.

In April 1918 this institution (Piedmont Sanatorium) was opened with a capacity of 25 beds. This was increased to 98 in 1921, 150 in 1926 and 269 in 1940. Buildings under construction at the present time will increase this capacity to 320 beds. This will also replace three wooden structures that are not fireproof and no longer fit to care for the patients.

A Training School for young negro nurses has been maintained since soon after the institution was opened. From this, 179 nurses have graduated, many of whom occupy responsible positions in tuberculosis and general hospitals in the north and middle west where salaries are higher than in the south. A new fireproof Nurses' Home to accommodate 90 nurses is now under construction.

Occupational Therapy has been taught for many years. At present there are two teachers, one for children and one for adults, providing instruction for the patients who wish to further their education. This and rehabilitation work are carried on with the assistance of the State Department of Education.

Since April 1918, 7,568 patients have been admitted for treatment. They have been discharged with the following results: Arrested—49; Apparently Arrested—143; Quiescent—1432; Improved—2369; Unimproved—1797; Died—1778.

Patients with all types of complications, including diabetes, pregnancy and others, are admitted as their names are reached on the Waiting List. The percentage of syphilis varied from 12 per cent in 1942 to 17.2 per cent in 1948.

Although the majority of patients are unable to pay, no one has been denied admission or sent home for this reason. Therefore, some bills are unpaid. Since it is noticeably more difficult to collect these bills, the number of free beds should be increased from 120 to 240, or all made free. The mortality rate for tuberculosis in the Negro race in Virginia gradually dropped from 309.9 in 1918 to 77.8 in 1948.

These results prove that these patients can be successfully treated. However, there is a waiting list of 174 patients, all of which should be admitted at once. There are 441 hospital beds for tuberculous negro patients in the State, which is inadequate. Ninety per cent or more are far advanced or moderately advanced when the diagnosis is made and applications filed. This enables them to sow the seeds of infection that will bear the next crop of tuberculosis cases before treatment is started. To further reduce the high mortality rate of tuberculosis in this race, with its impending danger to the whites, it is necessary to make a much greater effort to obtain a diagnosis in the early stage and provide treatment before they infect others. This means more effort on the part of the family physicians, health departments, and the individuals to see that these people are x-rayed at yearly intervals, or more often, and hospital beds provided for their care. The 300-bed hospital for negro patients planned for construction in the near future should care for the needs if the mortality rate continues to decline as it should, but more beds may prove necessary. It will be necessary also to increase the local facilities for the diagnosis of these cases and the proper supervision after discharge from the tuberculosis hospitals. Far too many cases relapse soon after returning home due to inadequate care. A large portion of the early cases admitted to Piedmont Sanatorium are found through its own Out-Patient Department, which cares for more white than colored patients.

Thus we see that the three sanatoria have been and still are a great asset to the State and a great help in the fight against tuberculosis. For a long time there was no place in the State where a diabetic patient with tuberculosis could get treatment. They had to be taken care of in the homes. After many years of begging and persuading, the health commissioner changed the policy. In October, 1947, the doors of all three sanatoria were thrown open to tuberculous patients with diabetes to receive treatment necessary to restore them to health. This should prove a great help in combating tuberculosis.

We therefore feel that these three institutions, Catawba, Blue Ridge and Piedmont, have made a great contribution to the State in the past forty years. It would be impossible to estimate the economic value to public health. Not only have a large number of people been restored to health and been changed from a consumer to a producer, but also the education and training they received in the respective sanatoria, as to how to check the spread of the disease to members of the family and to others, is beyond comprehension. They may be compared favorably with our colleges and other institutions of learning. This speaks well for the personnel of all the sanatoria and those in charge who made the job possible. Without good intelligent leadership it would have been impossible. Your chairman feels that the medical profession and the State owe these men a vote of thanks for a big job well done. No doubt it was performed under hardships and with great sacrifice. We wish them a brighter and more successful future in the fight against the White Plague.

Aggressive case-finding under the personal supervision of the Director, Division of Tuberculosis Control, continued to be an essential part of the State Health Department's tuberculosis eradication program.

To the routine practice of seeking new cases among the clinically suspicious and from close contacts to known tuberculous patients, x-ray screening of large groups of apparently healthy persons by micro-film, has been added —upon an ever-increasing scale. From a very small beginning eight years ago the State Health Department now has a fleet of eleven machines which are, one by one, being activated as full-time mobile units.

It is the expectation of the Division of Tuberculosis Control that adequate x-ray coverage can, from now on, be provided to every community as rapidly as the latter completes the extensive preliminary groundwork which experience has shown invariably must be complied with before the newer high-percentage type of mass x-ray survey can be assured of a degree of success sufficient to justify priority consideration and the expense incident to assignment of appropriate state equipment and personnel. Surveys of the newer all-out type envisage the screening of 80 to 90 per cent of a given population group, rural and/or urban, colored and/or white, by which it is hoped eventually to bring to diagnosis a great majority of active cases of tuberculosis in this State, most of whom will be in an early curable stage.

In the meantime, units now fully staffed and activated will continue to be employed, as to date, in screening special groups, colleges, industries, school teachers, inmates of state institutions, state employees, foodhandlers, etc. Also will be x-rayed as many of the general public as can be induced to participate (generally less than 5 to 10 per cent) without benefit of the special "standardized" promotional and community organizational techniques required for the high-percentage survey. Approximately 200,000 films were taken during the past year. An average of 3 per cent were referred for further study, "tuberculosis to be ruled out" in ½ of these or 1½ per cent.

Complete activation of all x-ray survey equipment is timed to integrate with completion of the alteration and expansion program for the State sanatoria, as well as with completion of orientation of all public health workers in educational and administrative and registry techniques, more effectively to bind every part of the overall tuberculosis eradication program into one cohesive whole.

To assist in the carrying out of this extensive program, the State Health Department solicits the cooperation of every physician in the State.

I long to see the day when we will have sufficient beds to take care of all the cases of tuberculosis in the State and to be able to keep them until they are no longer a menace to the community; and, furthermore, to have free beds for all that are unable to pay.

We feel that tuberculosis in the negro is the Number One health problem of today. Tuberculosis in the Aged is the Number Two problem. Not only are more people living to be old with tuberculosis than ever before, but also more people are developing tuberculosis in old age than previously. These old people are much more difficult to treat and to handle than young people. Since they cannot be cured, the only solution that we know at present is to confine them either in a sanatorium or a convalescent home. These are the ones that unknowingly spread the disease more than any others, and the public must be protected from them if we wish to eradicate Tuberculosis.

C. L. HARRELL, *Chairman*
J. B. NICHOLLS
C. W. SCOTT
F. B. STAFFORD

Cancer

During the past year, the following new tumor clinics have been approved, pending investigation by the American College of Surgeons—

The Memorial Hospital Tumor Clinic, Winchester, Director, Dr. George Murphy.

The Eastern Shore of Virginia Tumor Clinic, Northampton-Accomack Memorial Hospital, Nassawadox, Director, Dr. John Rogers Mapp.

The Clinch Valley Diagnostic Tumor Clinic, Clinch Valley Hospital, Richlands, Director, Dr. George Vermilya.

This brings the number of approved clinics to fourteen, a new high. More important, the geographic distribution of the clinics is now such that only the southwestern portion of the State is still incompletely serviced.

The Committee has published Cancer Bulletins and Case Reports in the VIRGINIA MEDICAL MONTHLY. It has served as liaison between the State Health Department, lay organizations, and the Medical Society of Virginia. It has consulted on various problems with the Bureau of Cancer Control of the State Health Department and with the Virginia Division of the American Cancer Society.

I. A. BIGGER
CLAYTON W. ELEY
ARTHUR GATHRIGHT, JR.
EDWIN P. LEHMAN
WM. H. PARKER
MASON ROMAINE
L. J. ROPER
GEORGE WILLIAMS
HERBERT WOLFF, JR.
GUY FISHER, PIERCE RUCKER } *Ex-officio*
GEORGE COOPER, JR., *Chairman*

Nutrition

Only one matter has been brought to our attention since the formation of this committee. The Executive Council of the State Nutrition Committee met on March 18, 1949, at the Medical College of Virginia and we were represented on the Council by the undersigned chairman.

At this meeting mention was made of the participation of the State Nutrition Committee in

(a) The promotion of the flour enrichment legislation,
(b) The dissemination of information in regard to nutrition,
(c) The continuation of support of home production and conservation of food, and
(d) The continuation of its service as a clearing house for information on nutrition in general.

This represents the activity of the undersigned Nutrition Committee to date.

WILLIAM R. JORDAN, *Chairman*
MCLEMORE BIRDSONG
WILLIAM GROSSMANN
A. B. HODGES
C. L. OUTLAND
E. G. SCOTT

Advisory to Woman's Auxiliary

Early in the year, the Council was consulted regarding giving money to a patient with T. B. who had been in a sanatorium but had been released and had a relapse. Inasmuch as the laws regarding this money state the patient should be in an institution, there was some question as to giving this money. The Council approved the giving of this money as the patient had been under the care of the Auxiliary and a check for $100.00 was sent him in December.

On the advice of the Educational Committee to Combat Compulsory Health Insurance, letters with sample resolutions were sent to Women's Organizations throughout the State, some 500 in all. Prior to the National Convention of the General Federation of Women's Clubs, and the National Conference to the Parent-Teacher Group, delegates were contacted and sent literature regarding Compulsory Health Insurance, and requested to oppose such measures.

At the Board meeting of the Woman's Auxiliary to the Medical Society of Virginia in March it was decided to participate in a Nurse Recruitment program.

B. R. KENNON, III, *Chairman.*

National Emergency Medical Service

Your Committee on National Emergency Medical Service has had a busy time during the past year. Whereas, our first consideration during the previous 12-month period had been Civilian Defense, the development of an emergency situation in the Medical Corps of the Armed Forces shifted the emphasis almost entirely to the military field.

To take up unfinished business first, the recommendations of your Committee which were passed by the House of Delegates, as to the advisability of reactivation of the Red Cross training program for nurses aids and as to the strategic location of blood banks in the State as matters directly related to Civilian Defense as well as to improvement in medical services in time of peace, were transmitted to Mr. Julian Brooks, State Relations Officer, American Red Cross.

Mr. Brooks' reply was to the effect that until the National master plan and the subsidiary State setup was established, the Red Cross could act only in response to local requests and not on a State-wide basis. The master plan which is being developed by the National Security Resource Board has not yet been presented and published, and State-wide organization will probably have to await this. On the other hand, Mr. Brooks would be glad to cooperate to the fullest extent with any local application for assistance along these lines.

You will recall that last year it was noted that the armed services had reported a dangerous shortage of medical officers which was increasing with little immediate prospect of relief. Apparently this situation worsened rapidly and by the end of the year, the Secretary of Defense sent out letters to all doctors who had received their medical education at the expense of the Government but who had never served in the Armed Forces, urging them to volunteer for a period of two years of service.

This appeal accomplished very little, so early this year the Council on National Emergency Medical Service of the American Medical Association was called on for help. First, the President of the American Medical Association addressed a letter to this group of men, stating that unless they volunteered in sufficient numbers to meet the emergency which the American Medical Association from its own investigation knew to be real, the only alternative would be to procure medical officers by a special draft which the A.M.A. would be in no position to combat and would have to endorse as a last resort.

This appeal also accomplished little, so the whole matter was then referred by Dr. Sargeant, Secretary of the Council on Emergency Medical Service to the various State Committees with the request that the individual members of this group be personally interviewed, the urgency of the situation explained, and the adverse precedent of the only alternative to a failure of the volunteer method, i.e., a special draft of doctors, stressed.

An analysis of the long list of young doctors who had received either deferment or both Government aid and deferment for medical education and who had not rendered service, showed that the great majority were located in Richmond or Charlottesville, chiefly in the two schools, or in Norfolk, so the President of our Society was requested to add to our Committee Dr. Walter P. Adams of Norfolk and Dr. Staige D. Blackford of the University of Virginia.

A further study of the situation showed that by far the majority of these young doctors were already bound by contract to various hospitals for residency training. For instance, 18 of them had agreed to serve as either junior or senior assistant residents at the Medical College of Virginia during the year July 1949-1950, and 14 of them were in a similar position to the University. It was further found that at the time that appointments had been made by the civilian hospitals and schools, the unsuccessful applicants had been notified and that few if any replacements were available.

Under these circumstances, it was obvious that haphazard depletions either by volunteering or by an indiscriminate "draft" would almost certainly cripple seriously the health services of the State. Both schools felt that one of the first results would be either a marked curtailment or possibly abolition of their programs for aid to outlying hospitals serving rural areas.

In the meantime, the situation had been further aggravated by communications of the Secretary of Defense to hospitals and schools, urging that they refuse to accept men from this group as residents in spite of the fact that most of the agreements had already been consummated.

After several conferences with faculty representatives of our two schools, the following policy was agreed upon:

1. The medical profession of the State recognized the emergent situation which existed in the Medical Corps of the Armed Forces and would do all in their power to alleviate it.
2. They also recognized their own obligations, both con-

tractual and moral, to individuals and to the civilian population of the State of Virginia and that these obligations would of necessity impose certain restrictions on the fulfillment of the all-out demands being made upon them.

3. Since indiscriminate depletion of the number of available residents either by volunteering or by draft would certainly create hardships in certain localities, this should be guarded against by the establishment of State quotas as was done under Procurement and Assignment. It must be remembered that Virginia and the other Southern States quickly oversubscribed their respective quotas in World War II while many of the large population centers of the North labored far behind at the termination of hostilities.
4. Any resident appointee who wished to volunteer for service would be released from his contract *if adequate replacement was available* and furthermore, as an inducement to volunteering, those released would be given new contracts for appointment two years hence after service was completed.
5. It was urged that lists of possible replacements from medical officers to be separated with dates of availability be supplied by the Armed Forces since local replacements were few.
6. It was felt both unwise and unfair to accede to the request that this group of men be barred from residencies until they had rendered service, especially in view of the fact that only about 3,000 out of a total of 18,000 were desired by the armed services. On the other hand, the man whose patriotism demands of him that he serve his country should suffer no hardship because of it, but rather be given due credit for this obvious evidence of good citizenship and willingness to sacrifice himself for the general good. This could be accomplished by showing preference to doctors who had seen service in making residency appointments. The A.M.A. should be urged to accept and propagate this principle as a national policy of the medical profession.

In view of the adverse publicity which this small group of young doctors have received, the following should be recorded to keep the record straight.

1. Of the many interviewed, there was only one who did not fully recognize his moral obligation to the country.
2. They were also well aware of the fact that the Armed Forces required only one of each six of them and that in volunteering, the one would discharge the obligation of five others who might have done so themselves.
3. None of them had any apprehension about a "draft" or any other fair method of selection, as a matter of fact, this was exactly what they wanted with great unanimity and gave good reasons for this point of view. Some of these reasons were as follows: "If I break my residency contract to volunteer, what chance would there be for reappointment at the institution I had left in the lurch?" or "What would be my wife's attitude if I volunteered and left her and the children while my colleagues stayed at home? If Uncle Sam would just put the finger on me, it would be entirely different and the whole family would spend two years in Hawaii or Japan and enjoy it." or "I have obligations other than personal which I cannot voluntarily lay down. If I were selected, it would be entirely different." With the one exception noted, I found none of them who would not have gone willingly if drafted.

In the preliminary checking of the large list of 110 doctors, it was found that 10 were already listed as having mailed in post cards showing intention to volunteer. Of the group of 20 sent to Dr. Walter Adams, 5 were already in the Service, 3 had taken the examination for the regular Navy and would begin active duty on July 1 and 1 was physically unacceptable. At Charlottesville, there were 3 who were to start service in the Navy in July and 1 physically unacceptable. In Richmond, there were 7 who were already in the Service planning to volunteer for July. This made a total of 28 for preliminary report to the meeting of the Council on National Emergency Medical Service in Chicago on March 21, 1949.

This meeting began with the report of the Council by the Acting Secretary, Dr. Ernest B. Howard, which was published in the *Journal*.

Dr. Norvin C. Kiefer, Medical Services Advisor, Civil Defense Planning, Office of the Secretary of Defense, discussed the continuing necessity for thorough civilian training and called attention to the fact that the British took five years and did a good job, but the Germans and Japanese who had three to seven years, respectively, did not feel the necessity for thorough organization and their plans broke down. With development of atomic warfare, this planning becomes all the more imperative and because of the utter devastation of the struck area, must be interlocking. He stated that where field trials of Civilian Defense measures had been undertaken, the chief deficiencies had always been doctors, nurses, and blood, and again stressed the need for many more nurses' aids and adequate development of blood banks. He also confirmed what Mr. Brooks had said, that as yet no enabling legislation had been passed putting the overall master defense plan into operation.

The next report was from Dr. Richard L. Meiling, former Secretary of the Council and now member of the Armed Services Medical Advisory Committee, Office of Secretary of Defense (The Cooper Committee). This Committee had been set up by the Secretary of Defense to study and develop the recommendations of the Hawley Committee mentioned in the last report. The consolidation of the Medical Corps of the various branches of the Armed Forces was one of their primary concerns. After surveys by this Committee, various economies in medical functions and personnel had been effected by mutual agreement and executive orders without awaiting enabling legislation based on the Hawley report. Examples are as

follows: 1. In the Panama Canal Zone where there were previously three general hospitals operated by the different Services, two have been closed, the personnel of the third augmented as necessary and the personnel thus made surplus transferred to other assignments. 2. The same thing has been done in Guam where the Navy takes over and Army personnel are shunted to Japan. 3. In Hawaii the Army takes over and the Navy personnel are transferred to the Orient. The Surgeon General's Library is now the Armed Forces Library. The Army Institute of Pathology is now the Armed Forces Institute of Pathology, etc., etc. In other words, in spite of the criticism and propaganda which appears in the daily papers, serious efforts at medical economies are actually being made by the various Armed Services by mutual consent and before the enforcing legislation is passed. This report is the more important because it comes from a civilian committee nominated by the A.M.A. and not from the Secretary of the Armed Forces.

Another report of this civilian committee seemed to your representative to show an important trend. Survey teams were sent out to all areas occupied by the Armed Forces, both at home and abroad, to see whether medical personnel were being utilized to the fullest advantage. These teams reported only five instances of misassignment in the whole military establishment which seems remarkable in the light of our experience in World War II. It must be added that this statement was questioned by a young doctor who had recently returned from Gaum, who stated that the better part of his time was spent sun bathing on the beaches, but confirmed by another young doctor on the list who had recently returned from an assignment to a dispensary in Tokyo responsible for the care of military personnel and their families, who reported that hours of overtime work were the rule rather than the exception.

The next subject for discussion was the Medical Officer Procurement Program which was opened by the various representatives of the Armed Services, each telling his tale of woe which was definitely more desperate than last year. The things of importance which were brought out were the following:

1. Their critical period would be during the next two years, starting with December 1949 when they would be about 3,000 doctors short of the quotas set by the (Civilian) Medical Advisory Committee.
2. Ratios as known during the war (6 or 8 per 1,000 troops) had been abandoned and the recommendations of the Committee had been accepted without reservation. Expressed as a ratio, the Army's medical strength was now below 2 per 1,000. Many doctors were working 14 and 16 hours per day.
3. In addition to this, any civilian doctor available was being hired to help out, even from displaced persons' camps and there had been complaints about this from the troops overseas.
4. In this country, doctors were being hired through Civil Service to displace Medical Corps personnel where possible for transfer overseas to relieve men who had completed their tours of duty.
5. The Armed Forces had eight Training Centers already in operation and a ninth about to open. About 200 internes and 600 to 700 residents were already in training under an agreement which gave the Armed Forces one year of service for each year of training. The supply seemed to be abundant and it was possible that the ratio would be raised to two years of service for each year of training. When these men began to come off the production line two years hence, the Army's trouble would be over and the quality of the medicine generally within the Medical Corps would be greatly improved.
6. One last thing of interest which offered further proof that unification and cooperation had made great strides in the Medical Corps was the categorical statement that the men obtained by volunteering or draft would be used interchangeably by the services. That is, if the Navy procurement produced a surplus, these officers would be transferred to the other services and vice versa.
7. Finally, it was stated that volunteers need not expect assignment to a training center because there were no places for them. Most of them would receive overseas assignments as hard working doctors with troops to hold things together until the present trainees were ready. These men could also count on it that they would be separated at the end of two years unless they chose to volunteer for a longer period.

Following this, the meeting was thrown open for general discussion by the State representatives but the time was very short and there were more than 40 representatives. Your representative finally obtained the floor and attempted to explain the position in Virginia, especially as regards our two schools. The Air Corps doubted the validity of the resident contracts and had it not been for the presence of Dr. Hugh Morgan as a member of the Council, this might have passed without discussion, but the Chairman of the Council of Medical Education and Hospitals was called and interrogated. He stated, "The attitude of the A.M.A. has always been that these contracts were equally binding on both parties." A little later, your representative was able to stir up a discussion on the "quota" question, but no vote was taken in the open meeting.

I was also asked to find out why these doctors who had been educated by the Government were released outright rather than put on indefinite leave without pay so that they might be called back when and as needed. None of Armed Services representatives seemed to know the answer, but Col. Dick Eanes, second in command of Selective Service, a Virginian, and a graduate of the Medical College of Virginia, gave what seemed to me to be a perfectly adequate explanation. He stated that immediately after V-J Day, pressure began to build up to "bring the boys home". This demand soon amounted to national hysteria and terrific pressure was brought to bear through

every Senator and Representative and even the President himself. Since we live in a democracy, the result was inevitable. In retrospect we can all see now that our hasty and indiscriminate demobilization was a big mistake, and what happened with this small group was a very minor portion of the much larger error. The civilian population of America must bear the largest part of whatever blame may be assessed.

Since there had been no real opportunity to discuss the Virginia policy, your representative made an appointment with General Lull, Dr. Sargeant and the Secretary of the Council of Medical Education and Hospitals for the following morning with ample time for free discussion. These gentlemen agreed fully with the policy and the result was the editorial in the journal two weeks later, urging the acceptance of the policy of preference for service men in residency appointments on a national basis. The "quota" system was also accepted by the Council and the recognition of contracts and the need of lists of replacements from the Armed Services established.

On May 2, 1949, another communication was received by the State Society from Secretary of Defense, Louis Johnson, fixing the "quota" for the State at 33 and enclosing a list of 11 men who had volunteered since the original communication. We have not yet received a list of possible replacements for residents now under contract.

Since the Chicago meeting, further conferences with these young doctors at our two schools have been held, both in Charlottesville and Richmond, but a supplemental report on the final results of these efforts will have to be delayed until October.

JOHN P. WILLIAMS, *Chairman.*

Blue Cross-Blue Shield

The Committee regrets that it is impossible at this time to give a report but hopes to have one later.

WM. R. PRETLOW, *Chairman.*

House of Delegates Procedure

It has been impossible to get this committee together but a report will be made to the House of Delegates.

H. B. MULHOLLAND, *Chairman.*

DELEGATES TO 1949 MEETING MEDICAL SOCIETY OF VIRGINIA

Names of delegates and alternates which have been reported for the meeting at the Chamberlin are given below. Societies which are not included are asked to send names to the Secretary before October 9th—the date for the first meeting of the House of Delegates.

Delegates	*Alternates*
Accomac	
Dr. J. L. DeCormis	Dr. J. F. Edmonds
Albemarle	
Dr. R. G. Magruder	Dr. Frank Daniel
Dr. H. B. Mulholland	Dr. McLemore Birdsong
Dr. Percy Harris	Dr. E. D. Davis
Dr. A. M. Smith	Dr. Harry Lee Archer
Dr. T. S. Edwards	Dr. James Twyman
Alexandria	
Dr. J. W. Love	Dr. C. E. Arnette
Alleghany-Bath	
Dr. S. P. Hileman	Dr. I. T. Hornbarger
Dr. J. R. Beckwith	Dr. M. I. Hanna
Arlington	
Dr. W. C. Welburn	Dr. William Dolan
Dr. John B. Leary	Dr. John T. Hazel
Augusta	
Dr. Leland C. Brown	Dr. J. T. Obenschain
Dr. Guy Fisher	Dr. S. G. Saunders
Bedford	
Dr. C. R. Titus	Dr. W. G. Hardy
Buchanan-Dickenson	
Dr. J. C. Moore	Dr. James Williams
Dr. T. C. Sutherland	Dr. R. L. Phipps
Charlotte	
Dr. Stuart Wilson Tuggle	Dr. Thomas Watkins
Culpeper	
Dr. J. L. Stringfellow	Dr. J. B. Jones
Elizabeth City	
Dr. Robert H. Wright, Jr.	Dr. B. E. Hunt
Fauquier	
Dr. William R. Pretlow	Dr. V. L. McCullers
Fourth District	
Dr. J. M. Habel	Dr. J. T. O'Neal
Dr. C. G. O'Brien	
Dr. T. H. Anderson	Dr. W. C. Harman
Dr. Meade Edmunds	Dr. T. B. Pope
Dr. C. E. Martin	Dr. G. M. Naff
Dr. H. E. Whaley	Dr. K. S. Freeman
Dr. W. J. Ozlin	Dr. H. H. Braxton
Dr. William Terry	Dr. J. A. B. Lowry
Dr. R. W. Bradley	
Dr. J. G. Graziani	Dr. R. A. Moore
Dr. Lee S. Barksdale	Dr. A. T. Brickhouse
Dr. F. E. Steere	Dr. B. H. Knight
Dr. M. Rosenberg	Dr. F. J. Clements
Fredericksburg	
Dr. W. W. Butzner	Dr. Lloyd F. Moss
Halifax	
Dr. W. Lloyd Eastlack	Dr. L. P. Bailey
Isle of Wight	
Dr. Ivan Steele	Dr. Rea Parker, Jr.

James River

Dr. W. A. Pennington
Dr. E. B. Nuckols
Dr. A. C. Whitley
Dr. E. J. Haden
Dr. N. P. Snead
Dr. J. H. Yeatman

Lee

Dr. G. B. Setzler
Dr. Thomas S. Ely

Loudoun

Dr. W. O. Bailey, Sr.
Dr. Keith M. Oliver

Louisa

Dr. J. Langdon Moss
Dr. H. S. Daniel

Lynchburg

Dr. E. G. Scott
Dr. S. E. Oglesby
Dr. L. R. O'Brian, Jr.
Dr. C. E. Keefer

Mid-Tidewater

Dr. T. E. Smith
Dr. R. D. Bates
Dr. J. M. Gouldin
Dr. John R. Gill
Dr. A. W. Lewis, Jr.
Dr. A. L. Van Name
Dr. C. Campbell

Nansemond

Dr. J. R. Ellison, Jr.
Dr. E. C. Joyner

Nelson

Dr. Estes Kidd
Dr. H. G. Dickie

Norfolk

Dr. George A. Duncan
Dr. H. W. Rogers
Dr. Walter P. Adams
Dr. George Schenck
Dr. Frank P. Smart
Dr. J. F. Waddill
Dr. W. C. Salley
Dr. C. C. Smith
Dr. W. B. Hoover
Dr. R. B. Grinnan
Dr. N. F. Rodman
Dr. W. P. Moore
Dr. R. L. Payne, Jr.
Dr. Brock D. Jones.

Northampton

Dr. W. J. Sturgis, Jr.
Dr. H. L. Denoon

Northern Neck

Dr. Lee S. Liggan
Dr. J. Motley Booker
Dr. Paul C. Pearson
Dr. P. P. Deming
Dr. A. B. Gravatt, Jr.
Dr. M. Mercer Neale, Jr.
Dr. H. E. Sisson
Dr. Harper C. Ward

Northern Virginia

Dr. Frank Tappan
Dr. John B. McKee
Dr. Harold Miller
Dr. George Long
Dr. E. L. Grubbs
Dr. Jas. G. Brown
Dr. C. H. Iden
Dr. B. B. Dutton
Dr. F. W. Gearing, Jr.
Dr. Elizabeth Cover
Dr. D. M. Kipps
Dr. John P. Snead

Orange

Dr. H. C. McCoy

Patrick-Henry

Dr. H. M. Price
Dr. B. A. Hopkins
Dr. W. N. Thompson
Dr. J. H. Irby

Princess Anne

Dr. I. L. Hancock
Dr. H. B. LaFavre

Richmond

Dr. J. Morrison Hutcheson
Dr. Richard Michaux
Dr. W. T. Thompson, Jr.
Dr. T. B. Washington
Dr. Edward E. Haddock
Dr. Douglas G. Chapman
Dr. Turner S. Shelton
Dr. Wm. H. Higgins, Sr.
Dr. C. Williams, Sr.
Dr. Ed. M. Holmes, Jr.
Dr. B. W. Rawles, Jr.
Dr. H. H. Ware, Jr.
Dr. Emily Gardner
Dr. H. J. Warthen, Jr.
Dr. Donald S. Daniel
Dr. Spotswood Robins
Dr. John R. Massie, Jr.
Dr. A. L. Herring, Jr.
Dr. R. F. Simms
Dr. Leroy Smith
Dr. Chas. G. Young
Dr. Wm. T. Moore
Dr. Rudolph Thomason
Dr. R. D. Butterworth
Dr. Elam C. Toone
Dr. James B. Stone
Dr. DuPont Guerry, III.

Roanoke

Dr. Chas. H. Peterson
Dr. M. A. Johnson, Jr.
Dr. George S. Hurt
Dr. T. J. Humphries
Dr. W. F. Hatcher
Dr. F. A. Farmer
Dr. Charles Irvin
Dr. Homer Bartley
Dr. David S. Garner
Dr. William L. Sibley

Rockingham

Dr. Galen G. Craun
Dr. Hollen G. Helbert

Russell

Dr. R. F. Gillespie
Dr. G. Q. Gilmer

Scott

Dr. G. C. Honeycutt
Dr. A. McG. Wallace

Southwestern Virginia

Dr. Glenn Cox
Dr. S. A. Tuck
Dr. A. F. Giesen
Dr. D. S. Divers
Dr. R. D. Campbell
Dr. Harry Hayter
Dr. C. D. Moore
Dr. E. S. Elliott
Dr. T. H. Worrell
Dr. M. C. Newton
Dr. S. J. Beeken
Dr. F. W. Delp
Dr. J. J. Eller
Dr. C. J. Harkrader, Jr.
Dr. S. W. Huddle
Dr. Beverley Eckles

Tazewell

Dr. Mary E. Johnston

Williamsburg-James City

Dr. Joseph E. Barrett
Dr. Hugh Stokes

Wise

Dr. L. N. Waters
Dr. T. J. Tudor

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—MRS. R. M. REYNOLDS, Norfolk

President-Elect—MRS. C. E. HOLDERBY, Hilton Village

Recording Secretary—MRS. T. S. CHALKLEY, Richmond

Corresponding Secretary—MRS. CHARLES LUPTON, Norfolk

Treasurer—MRS. REUBEN SIMMS, Richmond

Parliamentarian—MRS. H. W. ROGERS, Norfolk

Historian—MRS. M. H. HARRIS, West Point

The twenty-seventh annual meeting of the Woman's Auxiliary to the Medical Society of Virginia will be held at the Chamberlin Hotel, Old Point Comfort, on Tuesday, October 11th, at 9 A.M.

A most cordial invitation is extended to all women who are Auxiliary members or guests of physicians attending the Convention of the Medical Society of Virginia, to participate in all social functions and attend the general session. Auxiliary members or not, wives of doctors will be most welcome.

Each lady is urged to register promptly upon arrival in Old Point Comfort.

PROGRAM

Twenty-seventh Annual Meeting

Old Point Comfort **October 9-12, 1949**

Headquarters: Chamberlin Hotel

REGISTRATION BOOTH OPEN MONDAY AND TUESDAY.

CHAIRMAN OF ARRANGEMENTS:

Mrs. Chester D. Bradley, President Woman's Auxiliary to the Warwick County Medical Society.

CO-CHAIRMEN:

Mrs. William A. Read.
Mrs. Frederick Nimrod Thompson.
Mrs. Guy C. Amory.
Mrs. J. W. Carney.
Mrs. William A. Mitchell.
Mrs. Russel Von Lehn Buxton.
Mrs. Paul Hogg
Mrs. Barnes Gillespie.
Mrs. Louis Richman.
Mrs. Thomas N. Hunnicutt, Jr.

Monday, October 10

Registration Booth open all day.

1:00 P. M.—Trip to Mariners Museum.

4:00 P. M.—Pre-Convention Board Meeting.

Presidents and Presidents-Elect of County Auxiliaries; State Officers and Chairmen of all Committees are expected to attend.

Tuesday, October 11

GENERAL ANNUAL MEETING

9:00 A. M.—Chamberlin Hotel.

All women attending the Convention are cordially invited to attend.

Mrs. R. M. Reynolds, President, presiding.

Invocation.

Address of Welcome—Mrs. Thomas N. Hunnicutt, Jr., Warwick County.

Response—Mrs. M. W. Glover, Arlington.

Report of Committee on Arrangements—Mrs. Chester D. Bradley.

In Memoriam—Mrs. Lee S. Liggan, Irvington.

Minutes of the twenty-sixth annual meeting.

Minutes of the Post Convention Board meeting.

Minutes of the Winter Board meeting.

Roll Call.

Presentation of Honored Guests—Mrs. David B. Allman, President of the Woman's Auxiliary to the American Medical Association.

Mrs. Joseph W. Kelso, President of Woman's Auxiliary to the Southern Medical Association.

President's Report—Mrs. R. M. Reynolds.

Reports of Officers.

Reports of Chairmen of Standing and Special Committees.

Reports of County Auxiliary Presidents.

Guest Speakers—Mrs. David B. Allman and Mrs. Joseph W. Kelso.

Report of the Council to the Woman's Auxiliary to the Southern Medical Association—Mrs. P. M. Chichester, Richmond.

Report of the Annual Convention of the Woman's Auxiliary to the American Medical Association—Mrs. Mallory S. Andrews, Norfolk.

Unfinished Business.

New Business.

Recommendations from the Board.

Reports.

Committee on Resolutions.

Report of the Nominating Committee—Mrs. J. L. De Cormis, Chairman.

Election of officers.

Installation of officers—Mrs. H. W. Rogers, Parliamentarian.

Presentation of Gavel.

Acceptance of Gavel—Mrs. C. E. Holderby.

Adjournment.

LUNCHEON

1:00 P. M.—Chamberlin Hotel. Honoring especially invited guests of the Medical Society and Auxiliary

with their husbands and wives; Honorary Members; Past Presidents of the Auxiliary; the retiring and incoming presidents of the Medical Society and their wives; the Presidents of the Woman's Auxiliary to the American Medical Association, and the Southern Medical Association; and the members of the Advisory Council and their wives.

Greetings—Dr. Pierce Rucker, President of the Medical Society of Virginia.

Program—Nurse Recruitment—Mrs. Herbert W. Rogers, Chairman of Program.
Dr. W. C. Sally, Speaker.
Other speaker to be announced.

3:30 P. M.—Adjournment.
Boat ride around the harbor by the Hostess Auxiliary.

Wednesday, October 12

8:30 A. M.—Past President Breakfast—Chamberlin Hotel.

9:30 A. M.—Post Convention Board Meeting.

Cuts From Fluorescent Lights.

Beryllium introduced into the body by cuts from fluorescent light tubes apparently does not cause generalized lung disease, which is believed to result from inhaling beryllium compounds, according to two doctors from the Divisions of Medicine and Laboratories, St. Luke's Hospital, Cleveland, Ohio.

Writing in the July 9th *Journal of the American Medical Association,* Drs. A. D. Nichol and Raphael Dominguez say that "generalized pulmonary granulomatosis has not been reported to follow the accidental introduction of beryllium into the skin or subcutaneous tissues. Although chronic pulmonary granulomatous disease has not been produced experimentally, we believe that the study of instances of cutaneous involvement lends additional support to the clinical evidence that beryllium is at least a major factor in the causation of a disease which may cause extensive change in several structures of the body."

"Chronic persistent granulomatous inflammation of the skin with ulceration [skin tumors] may follow accidental lacerations by the present type of fluorescent light bulbs. Prevention of the cutaneous lesions can be accomplished only by wide excision."

Northampton-Accomac.

The Auxiliary to the Northampton-Accomac Medical Society held its annual summer outing and picnic as guests of Mrs. Joseph E. Gladstone at her new cottage at Silver Beach, with sixteen members and one guest present. Following luncheon, a short business meeting was held. A check for $20.00 for the Leigh-Hodges-Wright Memorial Fund was sent the State Auxiliary and it was moved that the use of the Grace Wilkins Holland Memorial Fund be decided at the Fall meeting. The speaker for the afternoon was Mrs. Odessa Bailey, Judge of the Juvenile Court of Roanoke.

CATHERINE R. TROWER (Mrs. Holland)
Chairman, Press and Publicity

Warwick.

At the June meeting of this Auxiliary held at the James River Country Club, the following officers were elected: President, Mrs. Louis J. Richman; vice-president, Mrs. William A. Read; recording secretary, Mrs. J. W. Carney; treasurer, Mrs. Vincent E. Lascara; and historian, Mrs. Paul Hogg. They will be installed at the September meeting.

Northern Neck.

This Auxiliary held its bi-annual meeting at The New Atlantic Hotel, Colonial Beach. Mrs. Deming of Colonial Beach extended a most cordial welcome to the Auxiliary members, after which the morning session was devoted to business. The President, Mrs. Gravatt, gave an excellent report of her work of the past seven months.

The afternoon session was turned over to the two guest speakers, Mrs. R. M. Reynolds, Norfolk, President of the State Auxiliary, and Mrs. E. Latane Flanagan of Richmond. Both speakers were well versed in their subjects and most interesting.

The fall meeting of the Auxiliary will be held at the Tides Inn, Irvington, on October 27th, 1949.

MRS. WM. H. MATTHEWS

THE CLINICAL ASPECTS OF ELECTROENCEPHALOGRAPHY*

JAMES B. FUNKHOUSER, M.D.,
Richmond, Virginia.

Since there has been a rather rapid postwar development of electroencephalography, and because the doctor in practice has so little time to sift through the large, accumulating, mass of technical literature, it may be worth while, at this time, to review the whole subject from a *practical* standpoint, emphasizing how "brain waves" may be of use to the general practitioner.

The electroencephalogram stands in about the same relation to the brain cortex as the electrocardiogram to heart muscle. Though this comparison is not appropriate in every respect, it is a useful concept for those who are already familiar with the principles and technics involved in electrically recording the *heart* beat.

Actually the electroencephalograph is about five times as sensitive and much more complicated than the electrocardiograph. However, discussion of instrumental technicalities will be omitted for the sake of brevity.

Simply stated, the EEG, clinically is an electrical recording of the fluctuations in brain potentials registered from the scalp surface, where the original impulse is about one 5 millionths of a volt. To bring this minute signal within range of the human eye it must be magnified one or two million times and, to avoid distortion, this must be done through successive stages of separate amplification.

Such amplification is subject to much adventitious electrical artifact and requires an elaborate and expensive layout, but the EEG is no longer merely a neurophysiological laboratory experiment. It has almost suddenly become a practical aid in the diagnosis, classification, and treatment of epilepsy and also in localizing certain focal diseases of the brain surface such as tumor, abscess, hemorrhage, etc.

EEG machines are available in nearly all medical schools today. As rapidly as postwar manufacturing limitations permit they are appearing in the offices of certain specialists, particularly pediatricians, neurosurgeons, neurologists and psychiatrists.

Historically, brain waves are not new. In 1875, Caton, an English investigator was disturbed by random, irregular movements of his apparatus; they interferred with his study of "evoked" potentials on the exposed brains of laboratory animals. He was studying the electric effect on the cortex of stimuli to the peripheral nerves. He reported these crude spontaneous movements but did not guess their significance. Following him, for many years, there were recurrent reports of this same phenomenon, but generally these "spontaneous" potentials were thought to be some sort of artifact. Only a few maintained interest in these strange movements until 1906 when the invention of the string galvanometer by Einthoven gave new stimulus to neurophysiological investigation. About this time Hans Berger in Germany began his studies of brain waves. He spent nearly 25 years trying to persuade men of larger reputation and with bigger laboratories to give scientific attention to the matter. Ridiculed by his contemporaries, his work found publication only in obscure psychiatric journals until Adrian, in England in 1936, critically reviewed Berger's experiments and data and publicly apologized for his earlier skepticism. He proposed the name of "Berger rhythm" for the "brain waves" and set his own assistants to investigating the phenomenon. Berger had already named the normal brain waves "alpha activity". Incidentally the nomenclature is not universally standardized even today. Many investigators use the words "alpha", "beta", "delta", and even "theta" activity. This has led to a confusion which may only be avoided by rather loyal adherence to one or another of the various "schools". I will use terminology largely originating with Frederick A. and Erna L. Gibbs, since their classification of epilepsy has won the widest acceptance in the United States. Their classification was expressly designed to relate characteristic electrico-physical phenomena with already established clinical epileptic patterns. However, Jasper's classification,[1] which is much more elaborate, has much to recommend it.

In America, Jasper, Gibbs, Pacella, Lindsley and Knott all began their studies about the same

*Read before the annual meeting of the Medical Society of Virginia, in Richmond, October 18-20, 1948.

time (in 1936) stimulated by Adrian's announcement.

The Gibbs classification of epilepsy appeared in 1943 only 5 years ago. Most of the clinical literature dates from that report.[2] Since that time the journals have burgeoned with poorly and improperly controlled experimental studies. written by nearly everyone who had access to a machine. Consequently it has grown increasingly difficult to separate the chaff from the wheat, particularly in the psychiatric journals.

It is well known that the passage of an electrical impulse along the course of a single nerve fiber gives rise to changes in the electrical potential measured on the surface of the nerve. This is called the "action current" or "action potential". Actually a wave of negativity passes along the course of the nerve at the time of the nerve impulse. Whether this is primarily an electrical or a chemical phenomenon is still an unsolved physiological polemic.

However, for the purpose of this discussion, it is only necessary to know that when this diphasic alternation of potential is properly amplified and recorded, the "action potential" appears on paper (or photographic film) as a sinusoidal or diphasic wave. Although, even in *mixed* nerves, the action potentials are of much higher frequency than brain waves, it has been proposed (since the brain is a complex bundle of nerve fibers and cell bodies) that "brain waves" are "summated action potentials" or possibly summated cell respiration. The parallelism between respirograms and electroencephalograms is intriguing. Just as a very fast, a very slow, or a gasping respiration may indicate disease or physico-chemical change of brain, so may very fast, very slow, or a "gasping" EEG reflect disease of brain.

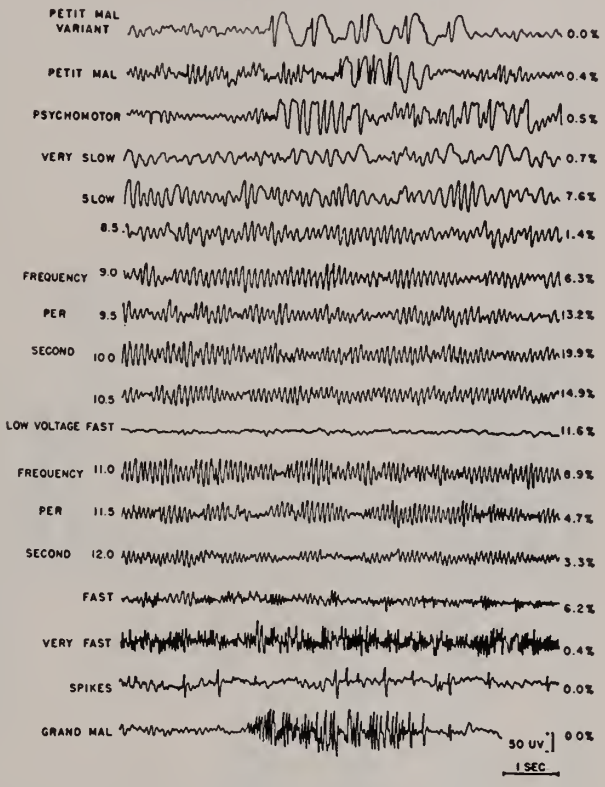
The normal beat or rhythm of the brain is somewhere between 8 and 12 waves per second. However, the rate and amplitude varies with age, attention, drugs, sleep, disease, and many unexplored factors—just as respiration may vary in sleep, or with emotion or with drugs. There is not space to discuss here the details of recording, since it is intended to go into considerable detail about the electroencephalographic diagnosis of epilepsy.

The development of new and better anticonvulsant drugs, some of which are nearly specific (for example, tridione) has made the clinical classification of the epilepsies of more than academic interest. We, therefore, turn now our attention to Gibbs' EEG classification Plate #1 (published in 1943).[2]

This frequency table of brain waves of normal persons and epileptics finds the normal subjects ranging in the center of this spectrum with both the fast and slow waves coinciding either with epileptic subjects, or subjects with convulsion-producing diseases such as hemorrhage, tumor, infection. Very fast or very slow brain waves are usually found to be associated with patients who have clinical evidence of brain disease and epilepsy.

Plate I

E.E.G. CLASSIFICATION (GIBBS)



Incidentally, since this table was published the Gibbs have shown that it is not so much the saw-toothed, flat-topped waves formed by the slow positive spiking that is diagnostic of psychomotor epilepsy, but the *negative spike* occurring simultaneously in the anterior temporal lead.

Gibbs found (Plate #2) in the study of 750 adult epileptics that most of them either had very fast or very slow waves. A fairly sizable number (approximately 15%), however, had brain records within normal frequency ranges.[2]

On the other hand (Plate #3) thousand normal controls show a small percentage (approximately 15%) of abnormality without any history of ever having had clinical seizures.[2] It is presumed by some epileptologists that these *normal* subjects who have *ab*normal brain waves may have a *latent* convulsive diathesis, and that under stress of dis-

Plate II

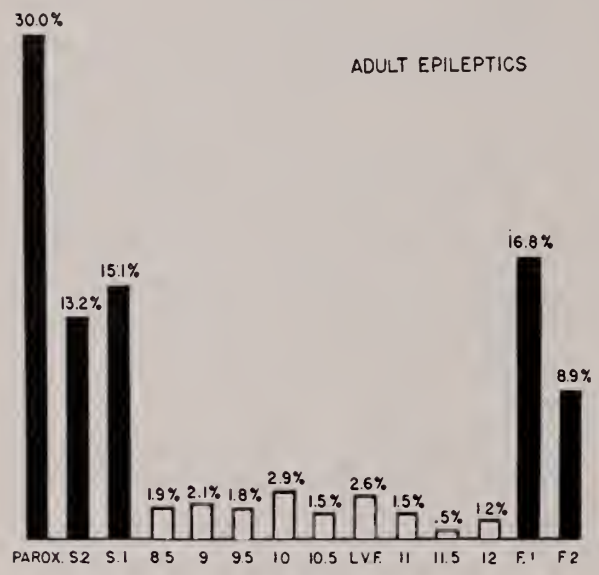
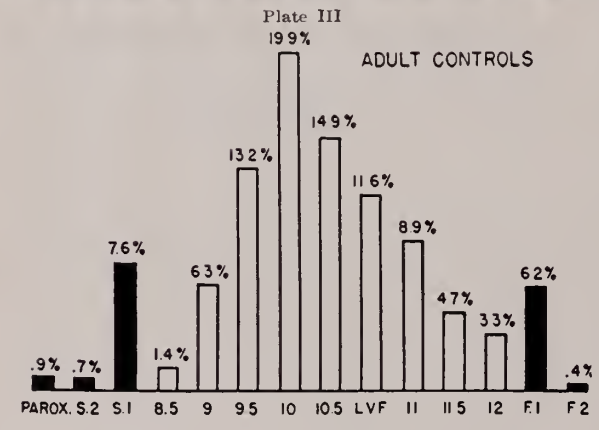


Plate III



ease or injury they may develop clinical seizures. Certainly, the non-epileptic siblings and the parents of clinically manifest epileptics show a much higher percentage of such latent abnormality than do those whose family history is clear of epilepsy. Ninety-eight per cent of the cotwins of epileptics have abnormal EEGs and 85% of the parents of epileptics have abnormal EEGs.

Those who are mathematically inclined can deduce from these tables that a paroxysmal EEG, that is, one in which the normal rhythm is suddenly interrupted with spikes, large slow waves, or combinations of slow waves and spikes, is 33 times as common in epileptics as it is in normal controls, because paroxysmal EEGs occur here in only point 9 per cent of these normal controls, but showed up in 30% of the records of epileptics. Differently stated, in any given case with such a spike, spike and wave, or slow waves, there is a 33 to 1 chance that the subject has clinical epilepsy. Such a record is therefore said to be extremely abnormal and *indicates* epilepsy or an epileptic diathesis.

Again referring to these tables, we find that in any given case with extremely slow or fast waves there is a 20 to 1 chance that the subject has epilepsy. Such records are therefore said to be *suggestive* of epilepsy and related disorders, and, similarly, in a case with a mild slowing or mild fast record the chances are only 2 to 1 that the subject is epileptic. Such records are reported to be *consistent with* such a diagnosis but not suggestive. Finally, a normal EEG is presumptive evidence of normalcy on an actuarial basis.

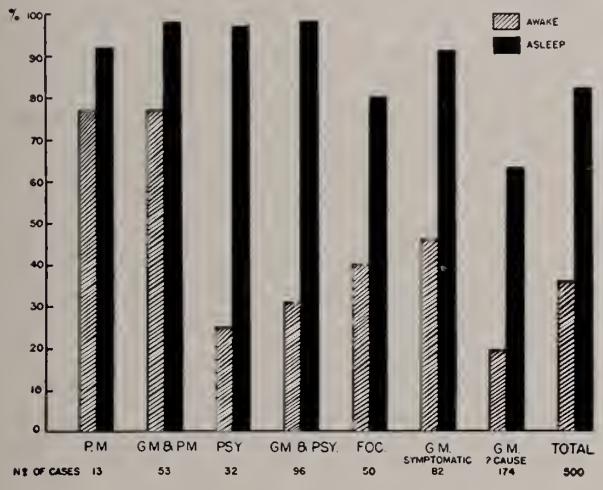
Nonetheless, we are faced with the fact that any given epileptic may have a normal brain wave and a non-epileptic may have an abnormal one. This, has certainly limited the usefulness of the EEG considerably for diagnostic purposes. Recently, however, sleep studies have nearly doubled the validity of EEG and triples it in certain categories.

Because normal sleep and drug-sleep had not been completely studied and there were not enough controls at the time of the original work, the changes of sleep were poorly understood. Subjects were not permitted to sleep during the early days of brain wave study. (Sleep introduced confusing slow waves and lowered amplitudes.) Only recently have large enough controlled sleep series of normals and epileptics been analyzed to make possible a revision of these original tables.

In Plate #4 you see that sleep has doubled the validity of the EEG so far as epilepsy in general is concerned and nearly tripled the "take" in psychomotor. Now it may be stated that over 90% of petit mal and 98% of psychomotors will show up in the EEG.[4] We are still, however, even with sleep, only able to detect idiopathic grand mal in 65% of the cases. Possibly the "activated EEG" recently reported[5] will raise these percentages even higher. I wish to emphasize one important point

here. These tabulations are based on large series of epileptics of varying severity and frequency of seizures. Since petit mal seizures occur several times daily, the validity is extremely high even for a 20 minute standard recording. If these idiopathic grand mal epileptics had several seizures a day, probably over 90% of their records would show abnormality. Usually, however, grand mal fits do not occur daily. Studies have been made which show that when grand mal seizures *do* occur daily nearly a hundred per cent have abnormal brain waves. For example, in those epileptics who have grand mal seizures once a month, 30% show abnormal EEGs, whereas, in those who have a grand mal seizure only once a year only 15% show an abnormal EEG.

Plate IV



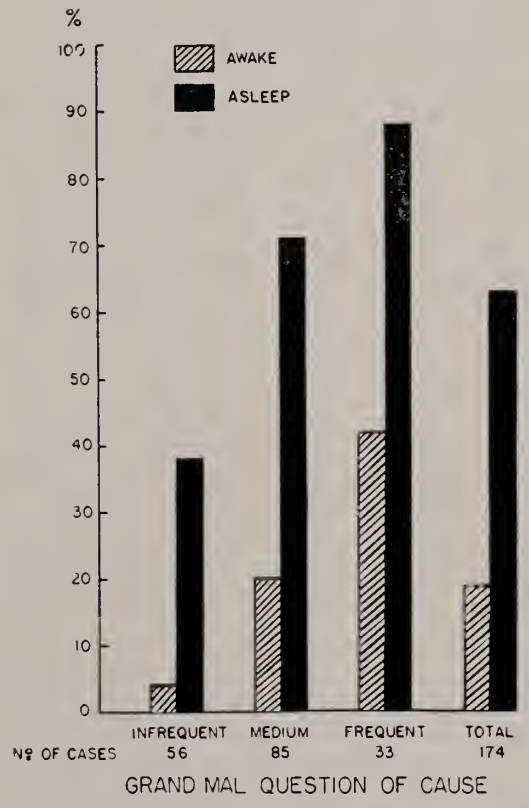
In view of these tabulations we should not be surprised to find a normal EEG in a patient who has only had a single epileptic seizure in his life or who only has seizures once a year.

Thus, even a *negative* EEG has *some* prognostic value, indicating at least that the epilepsy even when present is not extreme or severe. Since severe epilepsy was detected by draft boards, 20% of the army's epileptics had normal EEGs, whereas only 15% of clinic patients in the same age group had normal EEGs, and only 5% of institutionalized epileptics had normal EEG. Again we see where severity or frequency of epilepsy is a tremendous factor in the estimation of its validity.

This is shown in the latest published[4] sleep study (Plate #5).

Cerebral localization has not yet reached the high development as has the detection and classification of epilepsy. Possibly too much is expected of generally inadequate apparatus and poorly trained technicians. In some large medical centers, however, it has won the respect of neurosurgeons by a high degree of accuracy, equaling (according to some reports) the clinical neurological examination. It cannot at the present time, of course, replace the pneumo-encephalogram or any Roentgen technic with contrast substances, but certainly, since it is a painless and harmless procedure with no mortality, it will find growing popularity as efficiency increases. Since the principle involved in all localizing techniques is to compare the electrical activity over one area with the electrical activity over an homologous area, there are some defi-

Plate V



nite limitations. For example: Tumors deep in the substance of the brain, cerebellar tumors, and those on the under surface are not as yet accessible, electrically speaking, to the scalp electrodes. Sagittal and midline tumors furnish no homologous area for reference. A mirror-like reflection of abnormal activity to the opposite pole of the brain may lead to gross errors in diagnosis. Also the machine may record *normal* activity *through* a thin, electrically-

inactive area of diseased cortex, such as atrophy.

Even in the face of these obstacles, the electroencephalographer may localize cortical tumor and disease from the aberrant electrical impulses. The activity itself is not specific of any certain disease; it may be slow or fast, or it may be combinations of slow and fast activity, resulting in grand mal, petit mal, petit mal varient, or psychomotor type of waves and spikes, such as are shown in Plate #1. Usually the activity over a tumor is irregular and extremely slow. Such irregular slow waves are called "delta" waves by Gray Walter and other investigators.

The foregoing plates and discussion are misleading in one very important respect. They would seem to imply that any given case of epilepsy is either grand mal or petit mal, or psychomotor, but, certainly, as any clinician knows, the various forms of epilepsy are not mutually exclusive. As a matter of fact, many grand mal epileptics may have psychomotor seizures unrecognized or disguised as epileptic "psychoses" or "furor states" or epileptic "deterioration". EEG is of definite value in such a case. The unrecognized psychomotor component may be picked up in the routine EEG. In some instances, where a grand mal case has latent petit mal epilepsy, unrecognized clinically, suppressing the grand mal by dilantin may give rise to an increase in petit mal seizures, even precipitating a petit mal status. Then the patient may appear absent-minded, stupid, sluggish. This reaction in the absence of the EEG might be mistakenly attributed to an idiosyncrasy of the drug, causing it to be withdrawn. However, an EEG showing petit mal in a case of grand mal would indicate that tridione should be added rather than the dilantin withdrawn. Of more importance would be an EEG in a case of clinical petit mal showing a strong latent grand mal component. One would be wary of tridione in such a case because it might precipitate grand mal. The EEG in this case would indicate dilantin and the discontinuation of tridione.

In the case of grand mal epilepsy with unrecognized psychomotor attacks the patient may have episodes of dream-like stumbling, incoordination and amnesia. Often such attacks are blamed on phenobarbital, whereas an EEG would show the real nature of the condition. Certainly, the EEG has enabled us to make definite diagnoses of petit mal and psychomotor epilepsy where, before, atypical clinical symptomatology has been mistaken for "behavior disorder", "hysteria", "malingering" or "psychosis". In fact, psychomotor epilepsy (particularly in those cases who did not have grand mal seizures in addition) was, before the days of EEG, rather a confused problem embracing and combining the "furor state", the "equivalents", and post-epileptic "confusion states". Psychomotor epilepsy in particular had a rather dubious standing in medico-legal circles where the question of criminal responsibility for a certain act was involved. We now have an objective laboratory test which will show (in over 90% of the cases) whether a period of violence with amnesia is really an epileptic equivalent or whether it is hysteria or a feigned device to avoid punishment. Such an instrument is a considerable comfort to the medical witness in court. In accident and injury cases where brain damage or post-traumatic epilepsy is claimed, and EEG is proving to be, when positive, a formidable exhibit for the plaintiff and is often more convincing than a host of expert opinions.

The medico-legal value of electroencephalography (as with any objective "lab." procedures) promises to be one of great importance. A few introductory remarks are necessary to explain how it may be helpful in an accident case for example. First, *focal* encephalographic abnormality is nearly always "symptomatic" or secondary to trauma, or focal disease, whereas generalized EEG abnormality, appearing all over the cortex, is nearly always due to idiopathic, cryptogenic or hereditary epilepsy. Secondly, after 90 days EEG abnormality from injury is most likely to have disappeared unless clinical seizures have developed. It could be logically stated, then, in court that if a patient has generalized spikes over all of the cortex and this phenomenon is present, say, 15 weeks after the injury that the brain waves were probably abnormal before the injury because it has been shown (in the absence clinical epileptic seizures developing) that post-traumatic cases are *focal* and have normal brain waves after 90 days. However, on the other hand, a focal abnormality in the brain waves of a person who has suffered a head injury is likely to have been caused by the injury, because idiopathic or hereditary epilepsy tends to be generalized. Focal abnormalities in the brain waves are never found in a thousand normal controls. Therefore, to assume that such a focal finding was not due to the given

head injury would be the same as assuming that an orthopedic patient had broken his arm before he fell.[6]

However valuable, the electroencephalograph is not a "diagnosis machine". It still has very considerable limitations. It is of practically no value in the study of psychoneuroses, dementia praecox, and manic depressive psychoses except to separate those cases who are actually suffering from organic brain disease and whose symptomatology has led to erroneous diagnosis.

As it stands today, the deeper structures of the brain, the cerebellum and the base of the brain, are inaccessible to *routine* recording technics though this may not be true for long.

Abnormal brain waves are not specific for any certain disease. They will not distinguish a malignancy from an abscess or a hemorrhage, for example.

Many errors in localization are made through the insufficient training and experience of technicians and because of instrumental inadequacies. The better instruments are still priority items and very expensive.

Nevertheless, the EEG can give extremely valuable information about epilepsy and furnish useful corroboration in the matter of cerebral localization.

In conclusion, I make apologies for presenting nothing original. It is admitted a complete bibliography for this review would almost exclusively feature the name of Frederick A. Gibbs, his wife, and associates. The plates I have shown and the percentages quoted are nearly all derived from their work.

I have left out mention of many very important studies and glossed over controversial issues. My intention was to review the whole subject of encephalography briefly, but emphasizing what has seemed most valuable from a practical clinical standpoint.

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DISCUSSION

DR. I. S. ZFASS, Richmond: When an essayist presents a "bouquet composed of other men's flowers" I suppose it follows that a discussant should tie a ribbon around the bouquet and wrap it in cellophane. Dr. Funkhouser, however, has done such a complete job, considering the limitations of time, that there really isn't very much to discuss and it might be sufficient only to say "ditto". I want to congratulate the author for his successful separation of the chaff from the wheat. In any new development in medical science the initial enthusiasm of the many workers and their desires to get into print quickly invariably produces more chaff than wheat.

It is quite obvious from the views expressed that the author considers himself a disciple of the school of Dr. Gibbs and his wife. Inasmuch as my affiliations and identifications are more with the schools of Hoefer and Jasper, my general acceptance of the author's views indicate that the differences between the various schools is really only one of terminology and emphasis on different techniques of electroencephalography. The goal is certainly the same one.

I would question the advisability of referring to a "20-minute standard recording". Although it is frequently necessary in obviously normal recordings to limit the time spent, it should be emphasized that, generally speaking, the information obtainable is directly proportional to the thoroughness of the technique. With the use of more electrodes, longer runs of monopolar, bipolar, and triangulation recordings, more information is obtained. Basal or nasopharyngeal leads have increased considerably the value of the EEG in detecting tumors and other pathology in the deeper structures of the brain. It is also true that the amount of time spent in recording is dependent upon the number of oscillograph channels available. Although most electroencephalographic laboratories today have six-channel EEG equipment, more and more laboratories are finding eight-channel equipment indispensable; that is, when that equipment can be obtained. In my own laboratory, we routinely use a sixteen electrode placement and record with eight-channel equipment.

The author has surveyed the role of the electroencephalograph in epilepsy fairly completely. He has pointed out rather definitely how impossible it is to manage and treat intelligently a case of epilepsy without the advantage of EEG findings. Indeed, to try to treat patients with convulsive phenomena without EEG findings

is equivalent to the practice of cardiology without the aid of the EKG. The author has mentioned the newer trends in the use of sleep records and the activated EEG as an aid in increasing the reliability of the EEG in epilepsy. It might also be mentioned that interrupted photic stimulation of the retina is another one of the newer methods used to increase the incidence in degree of abnormality found in the EEG records of epileptics.

It has been pointed out that the EEG will not replace the pneumoencephalogram, but in more and more neurosurgical clinics the EEG is being used as another important technique for better localization. Indeed, it is routine in many neurosurgical clinics to record directly from the cortex during operations. This is called electrocorticography. Such a technique has helped to localize more accurately the presence of a tumor or an epileptogenic focus, thus avoiding unnecessary and more extensive surgical manipulation. With this technique it is possible to localize abnormal activity within ½ cm. In a similar way, electromyography, a technique of recording muscle action potentials with the EEG equipment is proving helpful to the neurologists and the neurosurgeons in the localization of spinal cord lesions.

I should like to point out that although it is true that the activity recorded by the electroencephalograph is not specific, that great progress is being made in the information obtained from the EEG in cerebral localization. I have recently completed a survey at the New York Neurological Institute, in collaboration with Dr. Paul Hoefer, of 434 cases of non-traumatic cerebro-vascular lesions. It was found that the EEG, when correlated with clinical and pathological findings, proved in many cases to be of considerable help in the differential diagnosis between cerebral hemorrhage, cerebral thrombosis and cerebral embolism.

It is important to reemphasize one of the author's closing statements, namely, "many errors in localization are made through insufficient training, inexperienced technicians, and instrumental insufficiencies." This is true, not only in localization, but in general use of electroencephalography. Just as it is impossible to obtain accurate and reliable information from inadequate x-ray and electrocardiographic equipment and with inadequate technicians, so is the value of the EEG dependent upon these same factors. Also, it is imperative that every EEG recording be interpreted not by a technician but by either a physician or a neurophysiologist properly trained and experienced in this field. Just as a properly qualified roentgenologist is required to report on x-ray findings, so should every EEG report be written by a properly qualified and experienced electroencephalographer. With this type of set-up and with the cooperative efforts of general practitioners and specialists in other fields, great progress will be made in electroencephalography. I believe that it is quite safe to predict that in the very near future this new technique in the physician's diagnostic armamentarium will be more widely used and that the EEG laboratory will be just as important in the well equipped general hospital as the electrocardiographic laboratory and the x-ray department.

Rimless Spectacles May Cause Cancer of Face.

Rimless spectacles that focus light on the face may cause cancer, according to four doctors from the Department of Dermatology, Jefferson Medical College, Philadelphia.

Twelve cases in which skin conditions near the eyes were believed to have been caused by the heat or chemical rays conducted by spectacle lenses are reported by Drs. Edward F. Corson, George M. Knoll, Herbert A. Luscombe, and Henry B. Decker in a current issue of *Archives of Dermatology and Syphilology,* published by the American Medical Association.

In nine of these patients the condition was diagnosed as cancer, and in another patient as keratoses, premalignant growths caused by radiation. The remaining two patients were believed to have chronic actinic dermatitis, a skin disturbance caused by light rays. All the patients were white. The doctors say they have not observed similar conditions in Negroes.

"In our investigations it was found that certain types of spectacle frames were especially responsible for transmission of light and its focusing on the skin below the lower edge of the lens. These were, above all, the rimless spectacles with lenses of round or elliptic [oval] outline. While the character of the lens—whether thick or thin, sphere, cylinder, or prism—was responsible for a certain difference, the same principle existed in all cases in which a wholly or partially unobstructed rim of the lens was present. The route traversed by the light beam could be blocked readily at either edge by the use of a lacquer employed by the optical trade and known as rim black. When carefully applied either to the upper or the lower rim of the lens it was hardly noticeable and the rays we deemed important in their effects on the skin were entirely cut off."

RICKETTSIAL DISEASES OF PROBABLE INTEREST IN VIRGINIA*

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Rickettsial diseases in Southwest Virginia present more of a potential than an existing problem at the present time. None of these diseases are seen often enough in this area for physicians to be particularly on the alert for them. In the case of Rocky Mountain spotted fever and endemic typhus it is now extremely important that an early diagnosis be made because of recent improvements in treatment methods. There are at least nine distinct rickettsial diseases known, but only four are of any interest to us here in Virginia and one of these (Rickettsialpox) has not yet been reported in the State.

The four rickettsial diseases which are worth consideration are in order of importance as follows:

1. Rocky Mountain Spotted Fever
2. Endemic (Murine) Typhus
3. "Q" Fever
4. Rickettsialpox

"Q" fever and rickettsialpox are briefly described because medical textbooks do not yet carry adequate information on them and because references in medical journals are too widely scattered to be easily accessible.

ROCKY MOUNTAIN SPOTTED FEVER

In 1945 and 1946 Virginia led every other State in the incidence of Rocky Mountain spotted fever. There were 99 and 92 cases reported, respectively, with a death rate of 20%. For some unknown reason the greater amount of this disease has occurred east of the Blue Ridge mountains. Of the ten counties which have never reported Rocky Mountain Spotted Fever, six of them lie in Southwest Virginia: Bland, Craig, Floyd, Giles, Pulaski, Washington.

The others from which physicians have never reported cases are: Bath, Highland, Mathews, Northumberland.

Dog ticks are responsible for transmission of the disease in this area. In connection with ticks, one should also remember that tick paralysis has been known to occur in a number of places in Virginia. Last year a child in one large hospital was placed in a respirator with diagnosis of bulbar poliomyelitis until an engorged tick was found embedded in the scalp of the occipital area. After removal of the tick recovery was surprisingly rapid.

To return to Rocky Mountain spotted fever, it is frequently very difficult to differentiate from endemic typhus. Both exist in at least twenty-three States. The signs and symptoms are similar to those in many other acute infectious diseases, so they are not very helpful in differential diagnosis prior to the appearance of the rash. The outstanding clinical difference is in the evolution and distribution of the rash. In Rocky Mountain spotted fever it usually appears first on the wrists and ankles. In endemic typhus it appears first on the chest and upper abdomen and frequently spares the palms and soles and rarely involves the face, neck, wrists, and ankles.

The significance of laboratory tests in diagnosing rickettsial diseases will be discussed in a later paragraph. It is more important to watch for a rise in titre in making diagnosis than to wait for a high titre agglutination.

As soon as a diagnosis of either Rocky Mountain spotted fever or typhus seems reasonably likely, and without waiting for laboratory proof, para-aminobenzoic acid (PABA) should be immediately started. Reported results with this drug have been quite good where it has been started during the first week of illness.[1,2]

The only discouraging report which I have seen on use of PABA comes from Kelsey and Harrell in Winston-Salem, North Carolina, and they admitted that adequate trial had not been given in their limited series of cases.[3] Use of specific hyperimmune rabbit serum for Rocky Mountain spotted fever has been very disappointing unless given by the second day of rash. The adult dosage on sodium para-aminobenzoate as now given in New and Nonofficial Remedies is 4-6 Gm., followed by 2-3 Gm. every 2 hours. There are certain precautions and blood levels which should be kept in mind. PABA should not be given along with sulfonamide drugs because it inhibits their antibacterial effect, but it is not

*Read before the Southwestern Virginia Medical Society in Pulaski, October 7, 1948.

antagonistic to penicillin. A new drug, chloromycetin, gives promise of being effective in treating Rocky Mountain spotted fever and appears to have no harmful side effects. Aureomycin may also prove to be beneficial in treatment of certain rickettsial diseases.

Rocky Mountain spotted fever vaccine has proven quite effective in prevention but has the disadvantage of having to be repeated yearly. For persons sensitive to egg protein a special type vaccine should be used which has been prepared from macerated tick tissue.

ENDEMIC (MURINE) TYPHUS

Dr. Kenneth Maxey in 1926 discovered that endemic typhus in the Southern U. S. was carried to man by the rat flea. This flea also carries the disease from rat to rat and remains alive and infectious for several months.

Some may be surprised to know that several thousand cases of endemic typhus occur every year in the nine Southeastern States just south of Virginia.[4] These are: Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas.

Virginia has a five year average of eighteen cases per year, with largest concentration in the city of Norfolk area and secondarily around Richmond. Rodent and rat flea control programs have been in operation in each area for the past several years. The U. S. Public Health Service is helping in extensive control programs in the nine Southeastern States mentioned. We, of course, hope that Virginia will continue to have so few cases. Endemic typhus should certainly be thought of as a possible diagnosis when treating visiting patients from the involved areas. Although the treatment is similar it is important that endemic typhus be distinguished from Rocky Mountain spotted fever so that proper control measures can be instituted in any area where typhus makes its appearance.

Description of rash and treatment for typhus were covered in discussing Rocky Mountain spotted fever. The U. S. Typhus Commission doctors who proved the effectiveness of PABA in treating typhus in Egypt stressed the importance of starting treatment during the first week of illness.[1]

"Q" FEVER

"Q" fever is a disease which has been diagnosed in a number of places in the United States and has been found to be caused by the Rickettsia burneti. "Q" fever must be seriously considered in the differentiation of atypical and non-bacterial pneumonias and in undiagnosed acute febrile illnesses. It varies in severity from a mild, influenza-like illness to a very serious, sometimes fatal illness. In all sizeable outbreaks there has been a definite connection with handling of cattle or some association with cattle or cattle barns.

There was in 1946 an outbreak of fifty-five cases with two deaths in Amarillo, Texas, with a definite association of all patients with the handling of Texas livestock.[4] The cattle showed no evidence of sickness. We should remember that many Texas cattle are shipped to Southwest Virginia.

Ticks have been suspected of being a possible vector and in many parts of the U. S. have been found infected with R. burneti. Again, we must remember that we have a full quota of various tick varieties in this area. The one case of "Q" fever reported in Virginia at McGuire Veterans Hospital was known to have had a tick bite in Texas or enroute to Virginia something like two weeks before onset of symptoms.[5]

In a Los Angeles county, California, outbreal a little over a year ago the rickettsia were recovered from raw milk. All but two of the 117 diagnosed patients had either visited or lived near dairies. As yet the exact method of human infection has not been proven.[6,7]

The typical clinical picture of "Q" fever has been described as follows: Patients seen by physicians not familiar with "Q" fever are ordinarily diagnosed as "virus" or "atypical" pneumonia. The incubation period is 13-26 days with a "flu" like onset with headache, fever, chilly sensations, and body aches and pains. There may be a cough. There may be severe headache, drenching sweats and insomnia. Commonly there is a neuralgic like chest pain on one side or giving a feeling of substernal congestion. Physical examination of the chest reveals little, but x-ray shows evidence of a pneumonic process, usually described as "atypical" pneumonia, when patchy, or "early lobar" pneumonia when diffuse. There is no rash. Duration is a few days to a week or more. No specific treatment has been shown to be of value. Blood serum taken during convalescence or a few weeks after recovery gives a positive complement fixation test for "Q" fever.

RICKETTSIALPOX

Doctors in Virginia have probably seen Rickettsialpox without recognizing it just as did the doctors in New York city for several years before a large outbreak in June 1946 was thoroughly studied. Cases had previously been diagnosed atypical chickenpox or reported as fever and rash of unknown origin.

Dr. Robert J. Huebner, of the U. S. Public Health Service, has published six papers on the study of the 144 non-fatal cases of this disease which appeared in New York city. These were in a single housing development covering three square blocks. The name was given because of a similarity to chickenpox lesions. The rickettsia, Rickettsia akari, was found to be carried by mites from house or field mice.[8]

Rickettsialpox starts with a single lesion described by the patient as a pimple, boil, or insect bite. This starts as a fairly round, firm, red papule, the center of which forms a vesicle leading to a firm black eschar and finally an appearance often much like a stage of vaccinia. This initial lesion persists about three weeks and leaves a scar. About one week after the first appearance of the initial lesion the acute stage is ushered in by sudden onset of chills, fever, sweats, headache and backache, followed after several days by appearance of a 3-8 day rash which has been described as atypical chickenpox. There are no scars left. The lesions may be very few to very many, located anywhere on the body, including the tongue, but not observed on palms or soles. Laboratory findings are not helpful. Treatment is symptomatic.

Whenever a few cases like this first occur somewhere in Virginia we should send some blood specimens to the National Institute of Health Laboratories, Bethesda, Md., or the Army Medical School for complement fixation tests. The same applies to any suspected outbreak of "Q" fever.

LABORATORY TESTS

Laboratory tests are an essential factor in final diagnosis of rickettsial diseases. There are specific complement fixation tests for diagnosis of all rickettsial diseases but the material is not yet generally available (now available at the Army Medical School and the National Institute of Health Laboratories).

The Weil-Felix agglutination tests are run in the State Health Department laboratories and many private laboratories. This test is of value only in diagnosis of Rocky Mountain spotted fever and typhus, but should not be relied upon to distinguish between them. A titer of 1:320 is considered diagnostic, 1/160 probably significant.

THE PROPER TIME FOR DRAWING BLOOD IS EXTREMELY IMPORTANT

This time is the same for all Rickettsial diseases.[9] A rising titer is of the greatest significance. What one should obtain is a first blood showing little or no antibody and a second sample showing an appreciable amount. In order to get this comparison the proper time for drawing blood is as follows:

WEIL-FELIX TEST

	1ST BLOOD	2ND BLOOD
	Before 7th day of disease	After 11th day of disease

COMPLEMENT FIXATION TEST

	1ST BLOOD	2ND BLOOD
	Before 11th day of disease	After 20th day of disease

CONCLUSION

After a review of recent medical publications the rickettsial diseases now seen or likely to be encountered in Virginia have been briefly discussed. Emphasis has been placed on epidemiological features, points of value in diagnosis, and any worthwhile treatment of a specific nature. Statistics for Virginia were obtained from the Virginia State Department of Health.

Additional Note: Since preparation of this paper aureomycin has received very favorable reports in treatment of Rocky Mountain spotted fever and some other rickettsial diseases. Possibly aureomycin will soon replace para-aminobenzoic acid as the drug of choice for treating Rocky Mountain spotted fever.

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HAMILTON, JAMES the younger (d.1839): A collection of engravings designed to facilitate the study of midwifery explained and illustrated, London: Printed for G. G. and J. Robinson.1796. 59 p.18 plates,22.3 cm.

——: A letter to Sir William Garrow, his Majesty's attorney-general on his proposed bill for regulating the practice of surgery throughout the United Kingdom of Great Britain and Ireland. 2nd ed. London 1818, 126-141 pp. 20.5 cm.

The collection of engravings is printed on cheap paper and many of the engravings are taken from the magnificent Atlases of Dr. William Hunter and Dr. William Smellie. The book makes a poor appearance.

The pen picture of the author as given in the Dictionary of National Biography is not an inspiring one. He was a short frail looking man with a quick nervous step, a slight stoop and a downward look, but he had great influence over his patients.

He was the son of Alexander Hamilton and was trained by him as successor. From his twenty-first year he assisted his father in his practice. He was even more pugnacious than his father. In 1792 a pamphlet appeared entitled "A Guide for Gentlemen Studying Medicine at the University of Edinburgh" in which the Hamiltons were praised and the other professors censured. Dr. James Gregory charged Alexander Hamilton with its authorship which Dr. Hamilton denied. He then charged the son and in the argument that followed, Gregory thrashed James Hamilton, whereupon the latter brought suit in the courts and recovered 100 pounds damages.

Our author was an ill-natured lecturer with a harsh voice. Nevertheless he attracted large classes, although attendance was not required until after 1830.

SUBSHOCK INSULIN THERAPY IN ANXIETY STATES†

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Most psychoneurotic symptoms are indicative of either tension or symbolism. It is with the former that we are concerned in this paper. These tension symptoms may be general or focal. The general tense attitudes are manifested by anxiety, irritability, "worry", over-concern about one's self, difficulty in concentration, and apprehension. Focal symptoms manifest themselves in the evidences of disturbances of the autonomic nervous system and, although all systems may be involved to some degree, most focal symptoms result directly or indirectly from disturbed activity of the autonomic nervous system.[1] For example: As a result of focal tension we may have tachycardia, chest pain, vague indefinite symptoms referable to the gastro-intestinal tract varying from simple nausea to the overworked diagnosis "mucous colitis"; sexual difficulties such as impotence, menstrual disturbances, particularly dysmenorrhea, and others. In other words, tension symptoms are widespread and occur to some degree in the majority of psychoneurotics, predominantly in those suffering from anxiety states. Anxiety states are usually characterized by extreme tension, fearfulness, apprehensiveness, anorexia, insomnia and headaches. Although psychotherapy is still our chief remedy for such conditions, insulin in sub-shock dosage is now being used as an adjuvant.

The use of insulin in treating psychiatric disorders is not new. As early as 1923 it was noted that insulin improved the mental status of diabetics who showed symptoms of depression.[2]

Sakel in 1935 introduced insulin shock therapy for psychiatric disorders, using insulin in coma dosage. Then for several years enthusiasm for the treatment increased, but after widespread usage this enthusiasm waned. However, deep insulin shock is still being used with success in certain types of schizophrenia. In 1940 a report of Polatin, Spotnitz and Wiesel[3] advanced the idea of using insulin in large enough dosage to produce hypoglycaemia but not large enough to cause shock or coma. In August, 1941, Sargant and Craske[4] published a paper on "Modified Insulin Therapy in War Neuroses." They reported the treatment of eighty-two cases with sub-shock insulin, describing rapid gains in weight, improved appetite and improvement in anxiety symptoms. Since their work was reported, there have been a number of publications appearing in the literature dealing with sub-shock insulin in the treatment of so-called "War Neuroses." Hohman and Kline[5] in October, 1946, reported thirty-seven cases with anxiety states, depression, and psychosomatic disturbances successfully treated with thirty to sixty units of insulin daily. Kelly and Thompson[6] in 1947, under the title "Insulin as an Adjuvant in the Treatment of Anxiety States," discussed their experience during the last World War in the neuroses hospitals of the European Theater. They report having personally seen more than fifteen thousand patients treated by their modification of Sargant's method of using modified insulin therapy. In January of this year, in the *Canadian Medical Association Journal*[2], Carnat, Edwards and Fletcher reported one hundred and ninety-seven cases treated with modified insulin therapy, most of which were cases of anxiety state, with sixty per cent showing definite improvement.

Before any patient is given insulin for sub-coma therapy there are certain procedures that must be carried out, such as thorough physical examination, laboratory studies including complete blood count, urinalysis, blood sugar and blood bromide and written permission from the closest relative. In the insulin therapy room there should be fifty per cent dextrose for intravenous administration, stimulants (coramine, pituitrin, caffeine sodio-benzoate and adrenalin), one-tenth normal sodium chloride, and sugar solution containing two-hundred grams of sugar per one hundred cubic centimeters of orange

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juice. These are all necessary for insurance of the patient's safety during the therapeutic procedure.

Sub-shock reaction is produced by hypodermic injection of regular "U-40" or "U-80" insulin, the dosage varying from twenty units to two hundred or more. The patient is usually started on twenty to thirty units a day and the dosage is increased by twenty to thirty units daily until sub-shock reaction occurs, the response and amount varying with the patient. This is given at 7:00 A. M. six days each week.

When the dosage of insulin reaches a high level without producing the desired effect, often by reducing the dosage the next day by fifty units and on the following day again increasing the amount fifty units the desired reaction is produced.

Once the sub-shock level is reached, the same dosage is repeated daily until maximum improvement is attained, at which time the dosage is reduced gradually twenty to fifty units a day rather than terminating the course of treatment abruptly.

Nursing care is of utmost importance during insulin sub-shock therapy. The duty of the nurse is to keep the room as quiet as possible. She should never leave the patient alone after the onset of symptoms, which occurs usually twenty to thirty minutes after the intromuscular injection of insulin. During the first hour the patient is usually quiet and drowsy but during the second and third hours the symptoms vary according to the amount of insulin administered and the individual reaction to the medication. The nurse should watch for flushing of the face, profuse perspiration, salivation, hunger, slurred speech, confusion, apprehensive restlessness, and a panicky demand for food. The patient's pulse and respiration are checked every fifteen minutes. Any marked variations such as respiratory difficulty, cyanosis, palor, strabismus, nystagmus, fibrillary muscular twitching or convulsions are reported to the doctor in charge of the insulin room. Patients are watched closely for excessive salivation and turned on the side to prevent collection of mucus in the throat.

The insulin sub-shock is terminated at the end of the second hour unless untoward reaction occurs and it is deemed advisable to end the treatment earlier. If the patient is able to swallow, four hundred cubic centimeters of orange juice containing four hundred grams of sugar is administered. If the patient cannot be aroused enough to drink the orange juice, thirty to fifty cubic centimeters of fifty per cent glucose is given intravenously by the physician. When the patient responds enough to take the orange juice orally, the four hundred cubic centimeters is given. Shortly after termination of the treatment the patient is served breakfast. It is essential that he receive ample diet to prevent a delayed insulin reaction. A patient who has emerged from sub-shock after administration of glucose and other forms of sugar may suddenly relapse into unconsciousness or portray symptoms of sub-shock within a twenty-four hour period. All patients receiving insulin therapy who are permitted to go out of the hospital during the day are instructed to take some form of sugar such as a bar of candy with them, and are instructed to return to the hospital immediately if symptoms of weakness occur. For replenishment of the body's salt content loss through perspiration during therapy, sodium chloride tablets are given.

Although the mode of action of insulin on the nervous system is not definitely known, it is thought that induced hypoglycaemia is antispasmodic and antagonistic to sympathetic activity. Hohman and Kline[5] have advanced the theory that "The production of hypoglycaemia by sub-shock doses of insulin stimulates the sympathetico-adrenal mechanism at the hypothalamic level, thus restoring autonomic balance, reestablishing homeostasis and probably influencing the cortex by way of the hypothalmus." Whether this is the explanation or not is not yet proven. However, insulin certainly does help to relieve the physiological features in anxiety states. We believe that there is a definite psychotherapeutic effect resulting from the fact that the patient is on a definite regime which causes physiological responses that are tangible and immediately recognized by the patient. The gain in weight which is usually accompanied by a feeling of physical well being helps to make him more amenable to psychotherapy. Of course, the personality make-up is not changed by insulin, and any good results obtained are not permanent unless the patient is made aware of the underlying cause of his symptoms and unless he gains insight or understanding of the basic factors in the etiology. In other words, insulin sub-shock cannot in any way replace good sound practical psychotherapy. If, however, it does help to bring the patient to a point where he is more amenable to the psychotherapeutic approach, it serves its pur-

pose. As is very well known, many patients are very resistant to all forms of psychotherapy and any treatment which helps to break down this resistance serves to promote cooperation and helps to establish the necessary rapport.

Under the above-mentioned routine, complications are exceedingly rare. Occasionally a patient may lapse into a coma but with careful watching this is usually avoided. When it does occur the treatment is terminated readily, if the signs of impending coma are noted while the patient is able to take glucose solution orally. If coma actually develops, glucose intravenously or by means of a nasal tube rouses the patient in a few minutes to the point where he can take the solution by mouth. Only rarely does a patient develop a convulsion during the course of sub-shock insulin therapy. This is usually prevented by terminating the treatment at the first sign of muscular twitching. Not infrequently a delayed insulin reaction may occur several hours after termination of treatment, which, even when very slight, gives the patient a great deal of concern.

Now it is evident that in sub-shock insulin we do not have a cure-all for all psychoneuroses nor for all tension states. A careful selection of cases is necessary. Family history, previous personality, intelligence, physical status, duration of illness, and so-called constitutional psychopathic factors all must be considered. It is not suitable for the hyperacute anxiety state which is best first treated with one of the other sedative measures at our disposal.[7] Nor is it suited for some of the chronic long standing psychoneuroses which do often manifest a limited degree of anxiety which is not a prominent factor in the illness. We fully realize that a series of fifty-eight cases is too limited in number to be of any statistical value. However, a brief discussion of these cases from the statistical standpoint will serve to show the type of case which we have found to have been benefited by this form of therapy.

In this series there were thirty-five females and twenty-three males. The lowest age was twenty-one years and the highest fifty-one, the average age being thirty-four. The highest dosage of insulin given was three hundred and seventy-five units, and the lowest amount found to produce the desired reaction was thirty units. The average patient required a daily dosage of one hundred fifty units before reaching the desired sub-shock state. One patient received only four treatments and was in the hospital only nine days, whereas another received fifty treatments and was in the hospital ninety days. The average patient received twenty-two treatments and had a total of thirty-six days' hospitalization. This roughly corresponds with the findings of Kelly and Thompson[6] who reported that they found the optimum period of treatment to be approximately twenty-one days. In this group of fifty-eight patients symptoms most commonly found were insomnia, anorexia, crying spells, anxiety, many and varied fears, obsessive ideas, apprehension, multiple somatic complaints (from headaches to painful feet), centering mostly in the chest and abdomen; weakness (generalized and localized); fatigue; feelings of insecurity; tremulousness; nightmares; impotency; frigidity; "confusion"; agitation, and the rather common complaint of "general nervousness."

Of these fifty-eight cases fifteen were considered as having recovered and thirty-seven others were much improved. The remaining six were only slightly improved or unimproved. For the purpose of emphasis we must again call attention to the fact that the sub-shock insulin treatment was only a part of the total treatment. In addition to repeated psychotherapeutic interviews, other therapeutic procedures such as occupational and recreational therapy, and, when indicated, various forms of hydrotherapy, were carried out. After breakfast all patients were up and occupied during the remainder of the day.

SUMMARY

1. Sub-shock insulin therapy in the psychoneuroses has been discussed from the standpoint of indications, technique and mode of action.

2. A series of fifty-eight cases manifesting anxiety and tension symptoms, which have been treated by using this method as an adjunct to other forms of therapy, is discussed.

3. Results suggest that this form of therapy alleviates symptoms, shortens the period of hospitalization and renders the patient more susceptible to psychotherapy.

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DISCUSSION

DR. DANIEL CHILES, Radford: I would like to congratulate Dr. Gayle, Dr. Neale and Dr. Cheek for a very excellent paper on subshock insulin and for their concise description of the procedure and indications for administration.

Subshock insulin is gradually being used more frequently in the treatment of anxiety tension states, particularly where the period of time available for treatment is definitely limited. In a great many instances in private hospital practice, we have only from four to six weeks to accomplish what we can in the way of therapy. It is necessary therefore to use every therapeutic tool to its best advantage as quickly as possible.

Insofar as procedure of administration is concerned, our technique varies very little from that described. We try to give a minimum of 20 treatments. This, of course, varies with the individual case. With the idea of preventing any delayed or irreversible reaction, we increase the dosage more slowly and permit the state of hypoglycemia to last about an hour longer; consequently, we use a slightly lower dosage of insulin. The use of thiamine chloride and sodium chloride seems to be indicated, particularly during the warm months.

I would like to emphasize the point that subshock insulin is only an adjunct in the treatment of anxiety states. Practical psychotherapy, sodium amytal interviews, occupational and total push therapy are to be used in conjunction with the insulin treatment. There seems to be little question but what, in most instances, rapport is established more quickly and the patient feels something worthwhile is being accomplished. The use of other sedatives is displaced by the physiological sedation of insulin. Consequently, such sedatives as barbiturates, and bromides can be eliminated. Some psychiatrists are reporting the use of subshock insulin on more than one occasion during the day; however, my experience in this has been quite limited.

In reviewing the last 60 cases in which we have been using subshock insulin, about two-thirds have been psychoneurotic patients with anxiety as a prominent symptom. Our results in general are about the same as described by Dr. Neale. In addition, we have been using subshock insulin in those patients withdrawn from habit-forming drugs including alcohol, who show basic anxiety symptoms. The long range prognosis in this type of patient, as might be expected, is not as favorable; however, this form of therapy does shorten the period of hospitalization and, from a subjective standpoint, seems to meet with considerable approval. It is my impression that more convulsions occur as a complication in this group; however, no adequate control has been obtained.

DR. DAVID C. WILSON, Charlottesville: I think the use of subshock insulin in anxiety states is certainly an advance. Most of us have been using insulin almost entirely for schizophrenics. I should like to ask Dr. Neale what is the difference between the insulin treatment of schizophrenics and that of anxiety states. As I look at this, it is very close to the treatment used for schizophrenics. It seems to me the patients are certainly shocked quite a good deal. This is certainly a different thing entirely from the ambulatory insulin treatment, in which twenty to thirty units are used in the treatment of anxiety states.

I believe Dr. Gayle talked on ambulatory insulin a few years ago, and I should like to ask Dr. Neale or Dr. Gayle if they think they get better results with this subshock insulin than they do with the ambulatory treatment.

DR. I. S. ZFASS, Richmond: I should like to congratulate the speakers on a very fine paper, and I should like to know whether they ever use insulin intravenously for subshock. I think an important point is that it is one type of therapy that can be used in the general hospital. I think that some of the emphasis the authors have placed on the possible complications has been perhaps overdone. I have found it possible to take care of patients receiving subshock insulin therapy in a general hospital with only the general supervision of the floor duty nurse who was properly instructed as to the signs and symptoms that had to be watched. Even if an occasional patient does have more than a subshock reaction and has a mild coma response it is never proven deleterious, but, to the contrary, it is usually quite helpful. It is, of course, important that the nurse recognize the patient's condition and institute proper care.

DR. NEALE, closing the discussion: In answer to Dr. Wilson's question relative to the difference in subshock insulin and shock insulin, the chief difference is we do not let the patient go into "shock." We stop the treatment at the first sign of impending coma. The patient is usually drowzy at the height of the treatment, but at the first sign of shock we stop it. In schizophrenics we sometimes use deep insulin shock, and the patient is left in shock for a couple of hours—in coma. As a matter of fact, this paper is confined to the treatment of anxiety states, but in some types of schizophrenics we have used subshock insulin also.

In answer to Dr. Zfass, we believe the complications are of not too great importance if the patient is watched carefully, as stated—watched by a nurse who is trained to look for signs of approaching complications. Out of the patients that we have had there have been only a few who have showed convulsions. They start with muscular twitchings, and the treatment is terminated as soon as muscular twitching is noted.

I want to thank the discussants. I appreciated their remarks very much.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for July 1949 as compared with the same month in 1948, and for the period of January through July 1949 compared with the same period in 1948, is as follows:

	July 1949	July 1948	Jan.-July 1949	Jan.-July 1948
Typhoid and paratyphoid	28	19	70	80
Diarrhea and dysentery	1,001	504	2,512	2,156
Measles	628	473	21,101	5,966
Scarlet Fever	33	33	433	595
Diphtheria	11	15	83	133
Poliomyelitis	41	87	52	106
Meningitis	3	8	55	60
Undulant Fever	9	10	38	57
Rocky Mountain spotted fever	29	17	59	39
Tularemia	6	7	19	36

SIGNIFICANCE OF THE RECURRING PATTERN IN POLIOMYELITIS INCIDENCE?

Some of the great discoveries in medicine have been made by men who used their natural powers of observation and deduction. Ambrose Paré was one such, who noted that wounded soldiers on the battle field were better off after the use of unheated oil than of boiling oil in their wounds, and so a cruel custom was discontinued. Jenner was another, observing that milk maids, who contracted cowpox as a result of their occupation, did not develop smallpox, and so the great boon of vaccination was given to humanity.

Fleming, an alert observer, noted that the growth of streptococci on a culture plate was inhibited by a contaminating mold and so the train of investigation was begun that led to the isolation and application of penicillin and the succeeding "miracle drugs", the antibiotics.

Some day somebody will tie together the parts of the epidemiological puzzle of poliomyelitis. There is an incidence pattern which because of its constant recurrence must have significance, but so far this significance has eluded students of the disease. This pattern concerns itself with seasonal, race and sex incidences. The seasonal incidence is one of the many unexplained features. Regularly, July, August and September are the peak months, with a gradual decline to the early winter. No confirmation has been established for theories of higher incidence in wet or dry summers.

The following table shows the race and sex incidence—the ratios repeated with such significant regularity as to remove them from the field of chance:

Year	No. of Cases Reported	Percentage Males	Female	White	Colored
1944	826	52.5	47.5	90.5	9.5
1948	567	57.8	42.2	90.4	9.6
1949 (to date)	66	59.0	41.0	86.3	13.7

When the picture is finally revealed many will say, "I saw the pattern—Why couldn't I figure the underlying reason?"

MEDICAL SOCIETY OF VIRGINIA
PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Opposition to President's Reorganization Plan No. 1 Registered.

Opposition to the President's Reorganization Plan No. 1 for the creation of a Welfare Department was registered by the Medical Society of Virginia on July 28 by means of telegrams to Virginia's representation in Washington. Since August 1, upon the request of Dr. George F. Lull, Secretary and General Manager of the American Medical Association, telegrams have been sent to more than fifty prominent laymen throughout the state, urging their aid in the defeat of the Plan. Many replies have been received expressing the willingness of these laymen to cooperate with the Society in this matter.

Hearings by the Senate Expenditures Committee on Plan No. 1 began on July 21 with the final hearings on July 29. Among those testifying were Dr. F. F. Borzell, Speaker of the House of Delegates of the American Medical Association, Robert P. Fischelis, Washington Representative of the American Pharmaceutical Society, and Marjorie Shearon, Legislative Consultant.

It is said that this plan, if accepted, would not attempt to reorganize the Federal Security Agency but would give the entire agency departmental status with its present Administrator, Oscar R. Ewing, serving as the first Secretary of Welfare. This action would also make Mr. Ewing a member of the President's Cabinet. Is it desired that anyone be elevated to cabinet rank who is so strongly in favor of compulsory health insurance, or committed to a government plan of medicine?

It is believed that a Department of Welfare, if created, should be under the leadership of one well qualified to discharge the duties of the office competently. Preferably a person who has worked extensively in education or welfare. There is skepticism on the part of many as to the qualifications of Mr. Ewing. Marjorie Shearon, Ph.D., Legislative Consultant and Editor of "American Medicine and the Political Scene" offers the following in connection with Mr. Ewing's ability as a Welfare Administrator: "He is not a welfare official in any true sense of the word, but merely a New York politician with political ambitions which would be furthered if he could get a better springboard."

It is said that if all programs and projects proposed by the Federal Security Administration are developed and go unchecked, the cost might be expected to go to $20 billion in the next ten years.

Action Defeats Social Security Measure.

The attempt to include all self-employed persons under Social Security is defeated for the time being. It is believed that the vigorous protests from the medical and other professional groups were effective in this. The Committee voted to exclude physicians, dentists, lawyers, and other professional groups. It is said that small businesses were not excluded because of the lack of strong protest on their part.

Doctors should be congratulated for their splendid effort in this regard, and should express appreciation to members of other professions who made a fine contribution in the fight.

Chamber of Commerce Opposes Socialized Medicine.

A fight against socialized medicine is being waged by the Chamber of Commerce at all three of its organizational levels—national, state, and local. The United States Chamber of Commerce produced a pamphlet ("You and Socialized Medicine") which is said to be one of the best on the subject. This is being distributed by your Public Relations Department, and a copy is included in the next newsletter to our membership.

Thousands of copies were supplied our State Chamber of Commerce which they sent to their entire membership. Many replies are coming in to

the State Chamber of Commerce requesting wider distribution at local levels.

The Medical Society of Virginia was commended for this piece of work.

Doctors to Meet at Old Point Comfort.

The Medical Society of Virginia will hold its annual meeting at the Chamberlin Hotel on Old Point Comfort on October 9 and 10. This will be the first time the Society has met at this historic location in 69 years. The last meeting held there was in the Hygeia Hotel—the predecessor of the Chamberlin.

It is believed that this meeting will be well attended and indications are that it should be successful. The hotel provides ample space for the business meetings and exhibits and also affords recreational facilities for leisure hours.

Plans should be made as far in advance as possible to secure the best reservations that are left in that area if they are not available at the convention hotel.

Announcements have been made in earlier editions of the Journal concerning this and it is proposed that this will be followed up with material to the Associated Press and all weekly papers.

BOOK ANNOUNCEMENTS

The Practice of Refraction. By SIR STEWART DUKE-ELDER, K.C.V.O., M.A., D.Sc. (St. And.), Ph.D. (Lond.), M.D., F.R.C.S., Hon. D.Sc. (North Western), Surgeon Oculist to H.M. The King; Knight of Grace of the Order of St. John; Consulting Ophthalmic Surgeon to the Army and the Royal Air Force; etc. Fifth Edition. St. Louis, The C. V. Mosby Company. 1949. xiv-317 pages, with 216 illustrations. Cloth. Price $6.25.

The Skin Problem Facing Young Men and Women. By HERBERT LAWRENCE, M.D., Diplomate, American Board of Dermatology. Timely Publications, San Francisco. 1948. 70 pages. Paper. Price $1.50.

Trends in Medical Education. The New York Academy of Medicine Institute on Medical Education, 1947. Edited by Mahlon Ashford, M.D. The Commonwealth Fund, New York. 1949. xiv-320 pages. Cloth. Price $3.00.

Atlas of Roentgenographic Positions. By VINITA MERRILL. While Education Director, Picker X-Ray Corporation. In Two Volumes. St. Louis, The C. V. Mosby Company. 1949. 663 pages. Illustrated. Cloth. Price $30.00.

Shearer's Manual of Human Dissection. Edited by CHARLES E. TOBIN, Ph.D., Associate Professor of Anatomy, The University of Rochester School of Medicine and Dentistry. Second Edition. The Blakiston Company, Philadelphia. 1949. 286 pages. 79 Illustrations. Cloth. Price $4.50.

Cardiac Catheterization in Congenital Heart Disease. A Clinical and Physiological Study in Infants and Children. By ANDRE COURNAND, M.D., Associate Professor, Department of Medicine, College of Physicians and Surgeons, Columbia University; JANET S. BALDWIN, M.D., Assistant Professor, Department of Pediatrics, New York University College of Medicine; and AARON HIMMELSTEIN, M.D., Instructor, Department of Surgery, College of Physicians and Surgeons, Columbia University. The Commonwealth Fund, New York. 1949. viii-108 pages. Illustrated. Cloth. Price $4.00.

There are many groups in this country studying Congenital Heart Disease, who have been inspired by the newer surgical treatment to a more definitive diagnosis. Cardiac catheterization has added a helpful link in this chain. Previously reported data is limited almost entirely to adults.

This New York group has made a pioneer study describing in Part I the details of cardiac catheterization in infants and children by way of the saphenous vein, and under avertin anesthesia. Physiologic principles are explained and the text well illustrated. The emphasis is on careful studies during the procedure, of fluoroscopic control, of blood pressure tracings, electrocardiographic changes, oxygen concentration findings from the vena cavae to the pulmonary artery, and the formulae to be derived from these.

Part II presents seventeen illustrative cases in the non-cyanotic group. Clear diagrams of hemodynamic data are correlated with the history, physical examination, electrocardiogram and x-rays.

This book will be too technical for those not familiar with detailed cardiac physiology, and congenital defects. It is a specialized study which will interest and help greatly those newer groups setting up congenital heart centers.

CAROLYN MOORE MCCUE

Clinical Case-Taking. Guides for the Study of Patients. History-Taking and Physical Examination or Semiology of Disease in the Various Systems. By GEORGE R. HERRMANN, M.D., Ph.D., Professor of Medicine, University of Texas. Fourth Edition. St. Louis, The C. V. Mosby Company. 1949. 240 pages. Cloth. Price $3.50.

This is a very complete and detailed book which should be useful to students in taking a clinical history and physical examination. The book outlines special methods for history-taking and physi-

cal examinations in the various medical and surgical specialties.

J. O. BURKE, M.D.

Blakiston's New Gould Medical Dictionary. A modern comprehensive dictionary of the terms used in all branches of medicine and allied sciences, including medical physics and chemistry, dentistry, pharmacy, nursing, veterinary medicine, zoology and botany, as well as medicolegal terms; with illustrations and tables. Editors—Harold Wellington Jones, M.D., Norman L. Hoerr, M.D., and Arthur Osol, Ph.D. With the Cooperation of An Editorial Board and 80 Contributors. First Edition. The Blakiston Company, Philadelphia. 1949. xxviii-1294 pages. 252 Illustrations on 45 Plates, 129 in Color. Cloth. Prices—textbook edition, $8.50; thin paper edition, $10.75; deluxe edition, $13.50.

This is the first completely new unabridged medical dictionary in 38 years. There are thousands of new entries reflecting the most recent advances in all branches of medicine and allied sciences. Pronunciation is shown by a new easy-to-use system of phonetic respelling with syllabification. Alternate pronunciations are given. This is the first medical dictionary built on modern lexicographic methods. Tables of arteries, enzymes, vitamins, monstrosities, etc. are grouped in a special section for easy reference. Bound into the center of the book is an atlas with 252 illustrations, 129 in color.

New Books.

The following are recent additions to the Library of the Medical College of Virginia and are available to our readers under usual Library rules:

A.A.A.S.—The frontal lobes.

Ashford, ed.—Trends in medical education.

Buxton—Diagnosis and therapy of gynecological endocrine disorders.

Cullen and Gross—Manual of medical emergencies.

DeGowin—Blood transfusion.

Gamow—Atomic energy in cosmic and human life.

Geschickter and Copeland—Tumors of the bone. 3rd ed.

Hartman and Brownell—The adrenal gland.

Jeans, Rand and Blake—Essentials of pediatrics. 4th ed.

Lee—A synopsis of anaesthesia.

Lewis—Electrocardiography and clinical disorders of the heart beat.

Lichenstein—Text-book of neuropathology.

Luneberg—Mathematical analysis of binocular vision.

Naumberg—Studies of the "free" art expression of behavior problem children and adolescents.

Niederland—Man-made plague.

Otero—Brucella infection in Puerto Rico.

Peterson—Hippocratic wisdom.

Rehfuss—Practical treatment.

Roberts—Medical education.

Seegers—Hemostatic agents.

Smith—Fungus diseases of the lungs.

Snapper—Pseudo-tuberculosis in man.

Sommers—Histology and histopathology of the eye and its adnexa.

Symposium on medicolegal problems. Series 2.

Tuft—Clinical allergy. 2d ed.

Turner—Injuries and diseases of oesophagus.

Weiss and English—Psychosomatic medicine. 2d ed.

World Health Organization—Manual of international classification of diseases, injuries and causes of death.

Yater—Fundamentals of internal medicine. 3rd ed.

Zimmer—Hindu medicine.

Group Doctors Earn More Than Solo Doctors.

Physicians in group or partnership practice earn half again as much as do their colleagues in solo practice, reports *Medical Economics,* national business magazine for doctors, in its June issue. About 8 per cent of all active M.D.'s practice in groups or partnerships. Net income of group practitioners is reported to be $16,493, as against $10,873 for doctors who practice by themselves, according to the magazine's sixth nationwide survey.

The fact that a greater proportion of specialists belong to medical groups provides one explanation for this spread. Another may be that group doctors see more patients daily: an average of 33, as compared with an average of 25 seen daily by solo doctors.

EDITORIALS

Charles-Édouard Brown-Séquard (1817-1894)

CHARLES-ÉDOUARD BROWN-SÉQUARD, the son of a French mother and an American sea-captain of Irish descent, a British citizen who knew no word of English until he had graduated in medicine in Paris, a restless, erratic scientist, who practiced medicine, and lectured only to make money to carry on his experiments, who knew no pleasure but work and yet lived to be 77 years old, a world figure with a world-wide reputation so great that his faulty observations on inherited acquired defects was accepted by Charles Darwin and incorporated in *The Descent of Man and the Origin of Species,* reached the highest pinnacle attainable by a French scientist, only to have his reputation marred by a louse, the *Gyropus ovali.* Such is the fascinating story as told by J. M. D. Olmsted in the eighth series Noguchi lectures at Johns Hopkins in 1946.

Charles-Édouard Brown was born on the Island of Mauritius, April 8, 1817. Three years previously the Island had been captured by the British, thus Brown became a British citizen and when later he wished to adopt his mother's name he had to apply to the British Consul in Paris. His mother was Charlotte Séquard whose father, Sieur Pierre-Paul Séquard had come to the Isle de France from Marsailles. His father was Charles Edward Brown, a captain in the American merchant marine, who was born in Philadelphia of Irish parentage. Captain Brown was lost at sea before Charles-Édouard was born, leaving his widow unprovided for. Charlotte Brown supported herself and her infant son with her needle. At fifteen young Brown left school and went to work in a general store. He early showed literary promise and the good Mauritian friends took up a collection so that he might go to Paris to complete his education. His mother went with him and supported the family by taking boarders. Brown carried a letter of introduction to Charles Nodier who advised him to give up his literary aspirations and study medicine. He entered the medical school in 1838 and, as was the custom of the more gifted medical students, he organized a tutorial class. He also enrolled as a pupil at the laboratory of Dr. Martin Magnon. In 1842 he pricked his finger in the dissecting room and was ill for months. He had scarcely recovered when his mother died suddenly. The situation seemed too much for him and he set off on an ocean voyage, a flight-pattern which he was to follow the rest of his life. Altogether he crossed the Atlantic sixty times. When he arrived in Mauritius he realized his mistake and soon returned to Paris to complete his medical course. He presented his thesis January 3, 1846.

His first investigation was upon the gastric juice. He swallowed sponges to absorb his own gastric juice and then drew them out to recover their contents. This led to persistent rumination and for years Brown felt unsafe in polite society during a meal. Early, however, his attention turned to the spinal cord, a field in which he became preeminent. After obtaining his medical degree Brown-Séquard (for he had changed his name) was desperately poor and Rayer helped him out by sending him some patients and loaned him a new induction machine with which to treat them.

At the end of six years he had published 100 papers. Among them was his famous discovery that sensory nerves crossed over to the opposite side in the spinal cord. His mode of life brought on a nervous breakdown with a distressing disturbance of his digestion. About the same time France changed from a republic to an empire.

As Brown-Séquard was an ardent republican he decided to leave France. In 1852 he set out for Philadelphia on a slow sailing vessel in order to have time to learn the English language.

He was received in Philadelphia with open arms. The *Philadelphia Medical Examiner* announced that it would publish any contributions that Dr. Brown-Séquard wished to make. His lectures in Philadelphia, New York and Boston met with wonderful success. While on this visit to America he discovered the effect of the sympathetic nerves on the blood vessels. Nevertheless it was a period of great financial distress and he was reduced to practicing midwifery in New York at five dollars a case. He was not happy in America, and in July 1853 after having married Miss Ellen Fletcher in Boston the previous March, he and his bride set sail for France. In May 1854 they were in Mauritius, where in the following October he received a call to the Medical College of Virginia as Professor of the Institutes of Medicine and Medical Jurisprudence. To the credit of the Board of Visitors of the Medical College of Virginia they were the first to give academic recognition to this great scientist, who was later to receive so many honors here and abroad. After a year at the Medical College of Virginia he returned to Paris and his beloved Sociétié de Biologie. It is beyond the scope of this editorial to recount all the moves of this restless man. At one time he had a large fashionable and lucrative London practice in neurology but gave it up for no apparent reason except to get back to his experiments in Paris. At another time he was professor at Harvard but gave that up for the same reason.

Early in his career he became interested in artificial epilepsy. Some of his guinea pigs that had had a hemisection of the cord developed an epileptiform disease. He found that he could reproduce the disease by resecting the sciatic nerve or amputating the thigh as well as hemisecting the cord. These animals could be made to have convulsions by stimulating various areas of the skin, especially about the face. Strangely enough many of the offspring of these animals had the disease. This was more apt to take place when the animals were confined and well fed than when they were allowed to run at large. The epilepsy could be cured by treating the trigger areas with a cautery. In Philadelphia, Brown-Séquard was unable to reproduce these effects and he attributed his failure to the Philadelphia climate. In 1934 two Polish investigators succeeded in reproducing Brown-Séquard's results, provided the animals were infected with a particular strain of louse, i.e., *Gyropus ovalis*. Common species such as *menopon extraneum* would not do, in fact they would overpower the rarer species and interfere with the results. They pointed out that the mutilated guinea pig could not scratch his face and neck, hence lice accumulated in this area in great numbers, a fact that Brown-Séquard himself had noted.

In 1856 Brown-Séquard studied the effect of extirpation of the suprarenal bodies. He had previously noted that hemisection of the cord led to congestion and increase in size of this organ. His work led to a wide-spread search for internal secretion in the various organs of the body, a subject in which he remained interested the rest of his life. When he was 72 years of age he began experimenting on rejuvenation, using himself as a test animal. His assistant, D'Arsonval, prepared for him bacterial free extracts of ground up testicles of dogs and guinea pigs which Brown-Séquard injected into himself subcutaneously. The first six injections were given in the course of two weeks. He reported wonderful improvement. Before beginning the injections, he had to sit down after working an hour in the laboratory and when he went home in his carriage he had to go to bed almost immediately after a hasty meal. After the

third injection, experimental work no longer tired him and he could remain standing for hours without feeling the need of sitting down. When these results were reported to the Sociétié de Biologie, it created a furor. There was a great demand on his laboratory which D'Arsonval was unable to meet. An effort was made to have the French government safeguard the manufacture of the extract but this it was unwilling to do. Finally in desperation D'Arsonval published his method of preparation of the extract. Altogether the experiment cost Brown-Séquard 10,000 francs as he had furnished the extract free to all physicians who wanted to use it.

EDITOR'S NOTE: This is the fifth of a series "Doctors for whom the public should be thankful."

Acrosclerosis

O'LEARY and Waisman (*Arch. Dermat. & Syph.* 47:382, 1943) consider acroscleroderma with associated vasomotor symptoms to be sufficiently different from diffuse scleroderma to be considered a separate clinical entity. They prefer the term acrosclerosis, which was first suggested by Jonathan Hutchison. Sometimes the Raynaud's phenomenon precedes the acroscleroderma, and sometimes it is the other way around. They limit the term acrosclerosis to those cases in which Raynaud's symptoms appeared first or simultaneously with the scleroderma. Acrosclerosis affects the extremities, face and chest. Its etiology is obscure. The pathologic changes consist of increase and swelling of the collagenous connective tissue with fragmentation and swelling of the elastic fibers of the cutis. The epidermis may be hyperkeratotic and the rete may be acanthotic or atrophic—melanin often accumulates in the basal cells. The hair follicles and sebaceous glands are atrophic or absent. Changes may take place in the connective tissue of the lungs, esophagus, heart and other organs. From roentgenoscopic examinations the changes in the esophagus consist of loss of peristalsis, and dilatation of the lower two-thirds of the tube with chronic ulceration, especially in the region just above the phrenic ampulla.

Of sixty-four patients observed by O'Leary and Waisman, fifty-six were women. In fifty-one the disease developed before the age of forty. At onset the symptoms are either those of the vascular system or of the bones and joints. In the earliest stages the disease may be easily mistaken for periarticular arthritis or fibrositis. In fact the majority of the patients are treated for many months or even years for one of the various rheumatic diseases before the true nature of the disease is recognized. Sclerodermatous changes may appear gradually and the tensing and stiffening of the skin may not be noticed by the patient. Increasing difficulty in the use of the fingers may be the first signs to attract the patient's attention. The facial involvement results in thickening and puckering of the lips and eversion of the lower eye lids so that the natural lines of expression are obliterated and the patient has a typical bland type of physiognomy. If the esophageal changes are pronounced the patient may complain of dysphagia. The constricting effect of scleroderma of the chest wall and pulmonary fibrosis may result eventually in considerable difficulty in breathing. The sclerodermatous changes may involve the larynx and cardiac muscle: consequently the terminal picture may include aspiration pneumonia, respiratory failure and congestive heart failure.

SOCIETIES

State Board of Medical Examiners.

The following applicants were granted licenses to practice medicine in Virginia on the basis of endorsement at the June 1949 meeting:

Dr. William Lott Ainsworth, Charlottesville.
Dr. Willy Edward Baensch, Chevy Chase, Md.
Dr. Walter Francis Becker, Charlottesville.
Dr. Charles Arnold Bohrer, Arlington.
Dr. Clinton Beriah Chandler, Grundy.
Dr. Roy E. Christie, Roanoke.
Dr. Christian Virgil Cimmino, Paterson, N. J.
Dr. John Bunyan Claytor, Jr., Roanoke.
Dr. Virgil Heath Cornell, Washington, D. C.
Dr. Wesley Cintra Cox, Fairfax County.
Dr. William Alvin Davis, Dante.
Dr. Harry Luther Day, Richlands.
Dr. William Caldwell Dunckel, Jr., Charlottesville.
Dr. William Dakin Fitzgerald, Abingdon.
Dr. Marvin Peace Footer, Washington, D. C.
Dr. John R. Gambill, Harrisonburg.
Dr. Charles Gandek, Newport News.
Dr. James Sylvester Gilliam, Charlottesville.
Dr. Richard Finley Grise, Charlottesville.
Dr. George B. Guarino, Arlington.
Dr. Hugh Johnson Hagan, Jr., Roanoke.
Dr. Frederick Burgess Hartsock, Washington, D. C.
Dr. Emil J. C. Hildenbrandt, Washington, D. C.
Dr. Jacob J. Hladycz, Richmond.
Dr. John Hogan, Pepin, Wis.
Dr. Willis Samuel Hood, Falls Church.
Dr. George Dearborn Hopkins, Lynch, Ky.
Dr. John Decator Hoyle, Alexandria.
Dr. Walter Smith Johnson, Roanoke.
Dr. David Mann Jones, Clifton Forge.
Dr. Lewis Edward Jones, Norfolk.
Dr. Paul Sadler Kemp, Alexandria.
Dr. Gordon Keppel, Williamsburg.
Dr. William J. Kucewicz, Norfolk.
Dr. Ralph Roy Landes, Danville.
Dr. James W. Long, Washington, D. C.
Dr. Steve R. Mahaffy, Roanoke.
Dr. George C. Manning, Jr., Charlottesville.
Dr. Albert Smith McCown, Richmond.
Dr. William Joseph McGee, Keokee.
Dr. Homer Curtiss Merrick, Jr., Norfolk.
Dr. David Herman Miller, Orange.
Dr. Walter Stanley Mozden, Alexandria.
Dr. Elaine Cahee Murphy, Petersburg.
Dr. Frank Jerome Murphy, Alexandria.
Dr. George Herman Murphy, Winchester.
Dr. Edmund P. Naccash, Washington, D. C.
Dr. Thomas Edward O'Brien, Arlington.
Dr. John Robert Parsons, Jr., Charlottesville.
Dr. Dorn Carl Pittman, Charlottesville.
Dr. William Dunlap Poe, Richmond.
Dr. Rhodes Woodford Quisenberry, Norton.
Dr. Glenn Hickam Richmond, Charlottesville.
Dr. Richard M. Rogers, Grundy.
Dr. John Lauchheimer Rosenthal, Richmond.
Dr. Stuart Calvin Runkle, Staunton.
Dr. William Carl Schaefer, Silver Spring, Md.
Dr. Jefferson Jackson Sebastian, Washington, D. C.
Dr. Robert Clell Thompson, Charlottesville.
Dr. Donald S. Thorn, Newington.
Dr. Thomas Walker, Richmond.
Dr. Hugh Warren, Charlottesville.
Dr. Clyde Emil Watson, Stonega.
Dr. Victor C. Welch, Portsmouth.
Dr. Francis Patterson Wells, Arlington County.
Dr. John Cameron Wrye, Chillicothe, Ohio.

The following applicants were licensed through examination:

Dr. Avis Branch Adams, Richmond.
Dr. James Belt Adams, Richmond.
Dr. Ruth Margaret Allen, Norfolk.
Dr. Lundie Weathers Barlow, Jr., Atlanta, Ga.
Dr. Francis Elwood Barrett, Charlottesville.
Dr. James Duncan Beaton, Colony.
Dr. Eugene Russell Bebeau, Schoolfield.
Dr. Ralph Harbison Boulware, Lynchburg.
Dr. John Bayard Britton, Seattle, Wash.
Dr. Arnold Lanehart Brown, Jr., Elkhart, Ind.
Dr. Suzanne W. Brown, Washington, D. C.
Dr. Eleanor Emily Jane Bundy, Decatur, Ga.
Dr. Clem Fitch Burnett, Jr., Norfolk.
Dr. William Upson Cawthon, New York, N. Y.
Dr. Thomas A. Cook, Santurce, Puerto Rico.
Dr. Robert Vincent Crowder, Jr., Lynchburg.
Dr. James Lovern Deadwyler, Elberton, Ga.
Dr. Peter Alexander Delmonico, Coeburn.
Dr. Frank Anthony DiLaura, Norfolk.
Dr. Francis Jones Dillard, Cartersville.
Dr. Robert Edward Dutton, Jr., Danbury, Conn.
Dr. Patrick Salvatore Ferrazzi, Bayonne, N. J.
Dr. Donald Hugh Ferguson, Charlottesville.
Dr. E. H. Fite, Jr., Muskogee, Okla.
Dr. William Allen Fuller, Alexandria.
Dr. Daniel Gabriel, Marion.
Dr. Martin Samuel Goldfarb, Charleston, W. Va.
Dr. Francisco Gonzalez, Richmond.
Dr. Robert Emery Gould, Chicago, Ill.
Dr. Edmund Noel Gouldin, Richmond.
Dr. Edward William Green, Detroit, Mich.
Dr. Fleta A. Gregory, Norfolk.
Dr. William Cary Hancock, Richmond.
Dr. Campbell Harris, Jr., Richmond.
Dr. Ralph Edwards Haynes, Freeman, W. Va.
Dr. James Edward Henney, Milwaukee, Wis.
Dr. Frank Imboden Hobbs, Charlottesville.

Dr. Robert Earle Holzgrafe, Denver, Colo.
Dr. Ammon Walter Hoover, Cincinnati, Ohio.
Dr. Benjamin Arthur Hubbard, Jr., Norfolk.
Dr. Robert Aaron Jackson, Richmond.
Dr. Beverly Jones, Richmond.
Dr. Harold O. Kamons, Richmond.
Dr. Leon Edward Kassel, Baltimore, Md.
Dr. Jacquelyn Marie Kirk, Pineville, W. Va.
Dr. Thomas Allen Kirk, Jr., Roanoke.
Dr. Morton Kurtz, Richmond.
Dr. Trent Laviano, Staten Island, N. Y.
Dr. Miriam Lending, Charlottesville.
Dr. William Cecil Link, Richmond.
Dr. Bridger Pearl Little, Jr., Leeds, S. C.
Dr. Davis Craig Lucas, Blacksburg.
Dr. Robert E. McClellan, Bristol, Tenn.
Dr. Eugene Sheldon Mendelsohn, Chicago, Ill.
Dr. William Bigbie Moncure, Radford.
Dr. David Alan Mullon, Port Washington, N. Y.
Dr. Harry Nenni, Huntington, W. Va.
Dr. Richard Allen Neubauer, Wilmington, Del.
Dr. Stanley Newman, Silver Spring, Md.
Dr. Joseph Allan Offen, Brookline, Mass.
Dr. Heth Owen, Jr., Fine Creek Mills.
Dr. Donal Snellings Parker, Richmond.
Dr. Donald R. Pierce, Charlottesville.
Dr. Norman William Pinschmidt, Seattle, Wash.
Dr. John Pearl Ray, Jr., Richmond.
Dr. Harry W. Reinstine, Jr., Jacksonville, Fla.
Dr. Frank Raymond Richmond, Fort Madison, Ia.
Dr. Albert Vinson Rigsbee, Durham, N. C.
Dr. John Alden Rogness, Madison, S. D.
Dr. John Chrysostom Rourke, Iowa City, Ia.
Dr. John Henry Russell, Tany Town, N. Y.
Dr. Dillard McCary Sholes, Jr., Fredericksburg.
Dr. Stanley Simon, New York, N. Y.
Dr. Harvey Daniel Smallwood, Charlottesville.
Dr. Carl Elmer Stahl, Sewickley, Pa.
Dr. Ralph John Stalter, Pittsburgh, Pa.
Dr. Martin Herman Sternstein, New York, N. Y.
Dr. Robert George Stineman, St. Davids, Pa.
Dr. Josephine Young Sullivan, Anderson, S. C.
Dr. Robert Ludwig Sundre, Duluth, Minn.
Dr. Frank Joseph Sykes, Berkley, Mich.
Dr. Charles Franklin Tate, Jr., Charlottesville.
Dr. Harry Baylor Taylor, Jr., Charlottesville.
Dr. Marvin Thalenberg, New York, N. Y.
Dr. Charles Gwyn Thompson, Marion.
Dr. Douglas James Thompson, Detroit, Mich.
Dr. Alice Virginia Thorpe, Richmond.
Dr. Mary Weatherly Tilden, Jamestown, N. C.
Dr. Clarence Vincent Townsend, Richmond.
Dr. George Edward Troxel, Seattle, Wash.
Dr. Robert Stephen Turner, San Diego, Calif.
Dr. John David Varner, Albemarle County.
Dr. Robert Klaus Waller, Richmond.
Dr. William Warren Walthall, Jr., Richmond.
Dr. Donald Leslie Weeks, Jr., Richmond.
Dr. Sidney Shields Whitaker, Jr., Bristol, Tenn.
Dr. Frederick Mosby Williams, Virginia Beach.
Dr. Henry Harrison Wilson, Jr., Radford.
Dr. Robert Clark Wingfield, Elkins, W. Va.
Dr. Ralph Burnley Winston, Norfolk.
Dr. William Overton Winston, Norfolk.

The Mid-Tidewater Medical Society

Held its third quarterly meeting at Urbanna July 26th with Dr. M. H. Harris of West Point presiding.

The vice-presidents of the several counties reported that they had done nothing concerning the formation of organizations to oppose State Medicine as the attitude of the citizens in the Mid-Tidewater area is overwhelmingly opposed to State Medicine and no further indoctrination is necessary at this time.

Delegates to the annual convention of the Medical Society of Virginia were appointed.

A report on the establishment of a hospital for the care of the chronically ill at Camp Patrick Henry was made.

It was voted to increase the dues for the Society by two dollars a year.

Dr. J. Morrison Hutchison, Richmond, presented a talk on "Medical Education" which provoked considerable discussion. The meeting was adjourned to meet at Tappahannock on the fourth Tuesday of October.

WILLIAM H. HOSFIELD, *Secretary*

The Virginia Peninsula Academy of Medicine

Will resume its monthly meetings September 19th. New officers for the coming year are as follows: Dr. Russell Buxton, President; Dr. Benjamin Miller, Vice-President; and Dr. William A. Read, Secretary-Treasurer.

The final meeting of last year was a clinical pathological conference at the Veterans Hospital at Kecoughtan. The Academy was most fortunate in having Dr. George Baehr, Clinical Professor of Medicine at Columbia College of Physicians and Surgeons, New York City, conduct the conference. Ninety-two physicians were in attendance.

WILLIAM A. READ

Nansemond County Medical Society.

Dr. F. I. Steele, Windsor, has recently been elected president of this Society. Dr. W. H. Chapman, Jr., Suffolk, is secretary-treasurer.

NEWS

Notice to Members Attending the State Society Meeting in October.

All members who will arrive on the *Norfolk and Western* should write the Manager, Chamberlin Hotel, Old Point Comfort, giving the *date* and *time* of arrival, as well as the number of passengers. The hotel will provide motor transportation from the Norfolk and Western Station in Norfolk to *all* hotels. The bus fare will be $1.00. Upon arrival at the station, members should inquire for the Hotel Chamberlin bus or car.

Advance notice must be given the Management so that transportation may be provided.

Appointed to State Board of Medical Examiners.

Governor Tuck announces the appointment of Dr. W. J. Hagood of Clover as a member of the State Board of Medical Examiners for a term of five years. Dr. Hagood was first appointed to the Board early in 1948 to fill the unexpired term of Dr. Beverley F. Eckles, resigned.

Medical Advisor for State Industrial Commission.

Dr. J. Fulmer Bright, former mayor of Richmond, has been appointed part time medical advisor for the State Industrial Commission. He fills the vacancy caused by the death last January of Dr. H. U. Stephenson who had held the position for twenty-seven years.

Lancaster County Doctor Honored.

Dr. C. T. Peirce of Nuttsville was the recipient of an ovation on August 12 by the people of three counties who gathered to honor him on the occasion of his fifty years of duty as a country doctor—49 of them centered in his native county of Lancaster.

The Scientific Exhibit at Interim Session.

Application blanks for space in the Scientific Exhibit at the Washington Session of the A.M.A., December 6 to 9, 1949, are now available. The meeting is intended primarily for physicians in general practice and will consist of clinical presentations accompanied by exhibits of practical interest. The Scientific Exhibit will include many exhibits with active demonstrations.

Application blanks may be obtained from the Director, Scientific Exhibit, American Medical Association, 535 N. Dearborn Street, Chicago 10, Illinois.

Dr. Charles L. Outland,

Richmond Public School Medical Director, has been named as one of nine consultants to the Federal Security Agency committee on school health. This committee will serve as technical advisors in formulating a statement of desirable practices in the field of health service for school children.

North Carolina Division of American Heart Association.

On September 8th and 9th in Winston-Salem will be held the first annual scientific meeting of the North Carolina Division of the American Heart Association. Outstanding speakers with national and international reputations have been secured, among them being Dr. Howard B. Sprague, Boston; Dr. Harold Feil, Cleveland; Dr. George Burch, New Orleans; Drs. Arthur J. Merrill and James V. Warren, Atlanta; Dr. Robert Barden, Philadelphia; and Dr. Howard T. Karsner, Washington, D. C.

Invitation is extended all members of the Medical Society of Virginia to attend these meetings. There is no registration fee but it is suggested that any who might be interested should make their hotel reservations early through the Reservations Committee of the Winston-Salem Chamber of Commerce.

Dr. Robert L. McMillan, Winston-Salem, is president of the North Carolina Heart Association.

Married.

Dr. Morgan Raiford, Franklin, and Miss Bernice Olivia Barbour, Greensboro, North Carolina, in July. He is a graduate of the Medical College of Virginia, class of '37, and recently received his Master of Science in Medicine from the Graduate School of the University of Pennsylvania.

Dr. J. R. Chitwood,

Formerly of southwest Virginia but for the past four years with the Fleming Hospital, Fleming, Kentucky, is now with the Benedict Coal Corporation at St. Charles, Virginia.

Dr. David C. Whitehead

Who has been associated with Dr. L. O. Crumpler, Medical Director of the Dan River Mills, Inc., Danville for the past three years, is opening his of-

fice September 1 at 748 Graydon Avenue, Norfolk for the practice of general medicine.

Drs. Lowry and Kiser.

Dr. John A. B. Lowry, Crewe, and Dr. J. B. Kiser, Emporia, attended the 29th session of the Southern Pediatric Seminar at Saluda, North Carolina in July.

Duke Medical School Symposium.

The 12th Annual Symposium of the Duke Medical School, Durham, North Carolina, will be held October 13-15. The general subject will be the "Basis of Disease". Among the guest speakers will be Drs. Stanley Bradley, New York; D. E. Clark, Chicago; John Dingle, Cleveland; Robert Elman, St. Louis; Paul Klemperer, New York; Joseph Lilienthal, Jr., Baltimore; C. N. H. Long, New Haven; William Parson, Charlottesville; Hans Selye, Montreal; and Robert Wilkins, Boston.

Dr. George D. Vaughan

Has returned to Richmond where he has opened offices in the Professional building with his practice limited to diseases of the anus, rectum and colon. He has been in Philadelphia for the past two years where he was associated with Dr. Harry E. Bacon and Temple University Hospital and Medical School in the practice of coloproctology. Dr. Vaughan was also on the staffs of St. Mary's Hospital and Kelly Clinic.

Dr. Julian Q. Early

Has located in Lebanon where he is associated with Dr. W. C. Elliott of the Lebanon Hospital. He will limit his practice to internal medicine. Dr. Early has recently completed a two-year course at the University of Virginia where he served as assistant medical resident and a fellow in cardiology.

Doctor Wanted

To take charge of Medical and Surgical Service in Eastern State Hospital, Williamsburg, Virginia. Psychiatric experience helpful but not required. Granville L. Jones, M.D., Superintendent. (*Adv.*)

Doctor Wanted

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OBITUARIES

Dr. Staige Davis Blackford,

Prominent physician of Charlottesville, died of a heart attack on July 17th. He was fifty years of age and a graduate of the University of Virginia in 1925. Dr. Blackford was professor of the practice of medicine and head of the gastro-enterology division of the department of internal medicine of the University. He was the organizer and medical director of the Army's Eighth Evacuation Hospital, sponsored by the University of Virginia, which was the first hospital ashore at Casablanca in the Fall of 1942, and had recently returned from a visit to hospitals in Germany and Austria as consultant for the Army. During World War I, Dr. Blackford served with the University section of the Army Ambulance Service and was decorated with the Croix de Guerre. In World War II, his unit was among the first receiving the plaque for meritorious service, and Dr. Blackford was decorated with the Legion of Merit and the Medal of French Morocco. Dr. Blackford had been an active member of the Medical Society of Virginia for twenty-one years and at the time of his death was a member of the Department of Clinical and Medical Education and the Committee on Emergency Medical Defense. He was a fellow of the American College of Physicians, member of the American Clinical Climatological Association and examiner of the American Board of Internal Medicine. His wife and two children survive him.

Dr. Albert Micou Sneed

The Williamsburg-James City County Medical Society and local community acknowledge with deepest regrets the loss of one of the founders of our society. His presence and faithful attendance

during his life is an inspiration to those who may follow.

He was many times elected to the presidency of our society but at no time did he lose interest in it or his community or the welfare of the people in general. His father was a true country doctor of the horse and buggy era and Dr. Sneed came to Toano when his calls took him over roads that required the automobile-horseback combination, and he ministered kindly and efficiently to all patients. He also found time for services to his church, politics and community life in general. He served on many committees in the Medical Society and always made an excellent contribution. At the time of his death he was coroner for James City County; a health officer of the county and a member of the Medical Society of Virginia.

Dr. Sneed, aged 60, died July 29 at Bell's Hospital in Williamsburg, where he had been critically ill for several weeks and his death was not unexpected by his family and friends.

He attended William and Mary College where he took his pre-medical work and was enrolled when 16 years old. He graduated in medicine in 1912 at the Medical College of Virginia, Richmond.

Surviving him are his wife and three daughters.

BE IT THEREFORE RESOLVED, That the Williamsburg-James City County Society expresses to Dr. Sneed's family its sorrow in the passing of a beloved member. The community has lost a most valuable citizen and the medical profession a talented and greatly beloved physician and friend, who will be sincerely missed.

BE IT FURTHER RESOLVED, That a copy of these resolutions be sent to his devoted family; the *Daily Press*, Newport News; the *Virginia Gazette*, Williamsburg, and to the VIRGINIA MEDICAL MONTHLY, Richmond, and be spread upon local societies pages.

HENRY E. DAVIS, *Chairman*
B. I. BELL
J. M. HENDERSON

Dr. Robert Vivian Funsten,

Professor of orthopedic surgery at the University of Virginia, Charlottesville, died of a heart attack on July 25th. He was born in Portsmouth in 1892 and graduated in medicine from the University of Virginia in 1918. Dr. Funsten saw service with the U. S. Army in France during World War I. He served on the faculty of the University of Iowa from 1919 to 1922, following which he practiced in Detroit for ten years. Dr. Funsten was a member of the American Orthopedic Association, a fellow of the American Academy of Orthopedic Surgery, and a member of the Council of the Warm Springs Foundation. He had been a member of the Medical Society of Virginia for seventeen years. His wife and four children survive him.

Dr. Philip L. Hill,

Of Colonial Heights, Petersburg, died early on August the 8th, having been taken ill while attending the church service on Sunday. He was sixty years of age, and a graduate of the Medical College of Virginia in 1917. After a year's internship, he went to Korea where he served as a medical missionary until 1926. He then returned to the States and located at Colonial Heights, where he had taken an active part in the life of his community. He was a member of the City Council and had been a member of the Medical Society of Virginia for a number of years. His wife and four children survive him.

Dr. Frank Jordan Morrison,

Prominent physician of Suffolk, died July 14th after a long illness. He was sixty-seven years of age and a graduate of the University of the South, Tennessee, in 1903. Dr. Morrison had practiced in Suffolk for forty years and was chief surgeon at the Virginia Hospital and the Community Hospital. He had been a member of the Medical Society of Virginia for several years. His wife and two sons survive him.

Dr. Wilbur Moorhead Phelps,

Formerly of Staunton but more recently of Cape Charles, died July 28, while visiting a sister in Hyattsville, Maryland. He was seventy-two years of age, and graduated in medicine from Howard University in Washington in 1898 and later at George Washington University. He had been a member of the Medical Society of Virginia for fifty years and last year was among those awarded the "fifty year" membership certificate. His wife preceded him in death by less than three months, and interment for both of them was in Arlington Cemetery.

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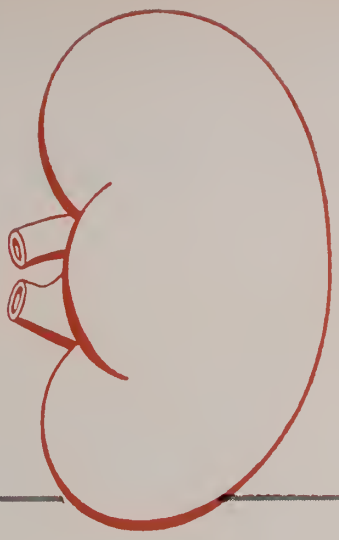

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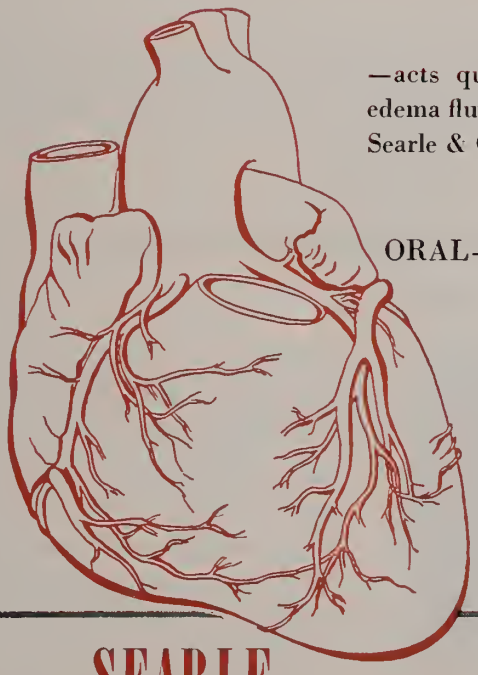

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SEARLE RESEARCH IN THE SERVICE OF MEDICINE

1. Brown, W. E., and Bradbury, J. T.: The Effectiveness of Various Diuretic Agents in Causing Sodium Excretion in Pregnant Women, Am. J. Obst. & Gynec. 56:1 (July) 1948.

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Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60; Proc. Soc. Exp. Biol. and Med., 1934, 32-241; N. Y. State Journ. Med., Vol. 35, 6-1-25, No. 11, 590-592.

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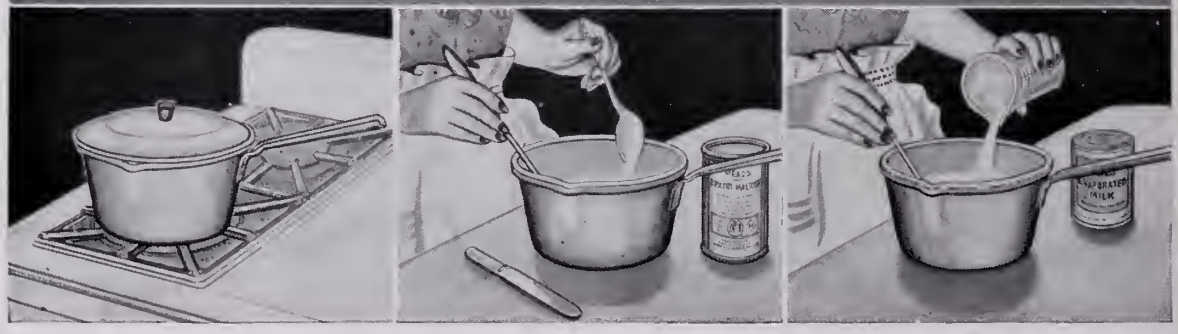
2. Stir in Dextri-Maltose while water is hot.
3. Add evaporated milk and stir.



OR

WITH WHOLE MILK

1. Mix whole milk and water.
2. Heat until almost boiling and stir in Dextri-Maltose.
3. Boil gently for three minutes.

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CONTENTS

Guest Editorial. William H. Sweets, M.D., ---- 499

Nitrogen Mustard Treatment of Hodgkin's Disease. H. St. George Tucker, Jr., M.D., and William R. Kay, M.D., Richmond, Va. ---- 502

Protein Deficiency in Surgical Practice. Charles S. White, M.D., Sc.D., Washington, D. C. ---- 511

The Early Diagnosis of Brain Tumor. C. C. Coleman, M.D., J. M. Meredith, M.D., and C. E. Troland, M.D., Richmond, Va. ---- 516

Recent Advances in Cataract Surgery. Elbyrne G. Gill, M.D., Roanoke, Va. ---- 521

The Treatment of Malignant Melanoma. Harry J. Warthen, Jr., M.D., Richmond, Va. ---- 528

Acute Pancreatitis. Hugh H. Trout, Jr., M.D., and Horace A. Albertson, M.D., Roanoke, Va. ---- 532

An Unusual Case of Hydrocephalus With Some Comments on Delivery. Chester D. Bradley, M.D., Newport News, Va. ---- 539

A Method of Treatment of Massive Gastro-Intestinal Hemorrhage which Appears Uncontrollable. Ernest S. Roberts, M.D., Kecoughtan, Va. ---- 543

Continued on page 6.

CLAUDE BERNARD ISSUE

October, 1949

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GUEST EDITORIAL

Medical Care in England

MUCH of the English-speaking world is observing attentively the sweeping experiments in Great Britain in which agencies of the central government are undertaking vastly increased responsibilities for the economic well-being and physical welfare of the whole people. One of the most popular of these measures appears to be the Act which instituted the British National Health Service.

To a number of publications in our American lay periodicals attesting to the enthusiasm of the potential British consumer for this service, I can add the results of a tiny poll which I took myself. In a series of follow-up letters early this year to two groups of former patients on whom I operated during four years of practice in Great Britain, there was appended to the specific clinical questions a request for an opinion of the new health service. In the great majority of the replies the scheme was praised to the skies. And approbation of this system of medical care does not come alone from the lowly. No less an apostle of individual freedom than the Right Honourable Mr. Winston Churchhill spoke with pride at the Massachusetts Institute of Technology recently on the part he had played as a member of the original Lloyd George Government in 1912 in initiating the prototype of the current scheme, the Panel System of those earlier years.

The opinions of the doctors who are expected to render the unlimited service provided by the Act, in return for a small fixed remuneration and aided by grossly limited facilities, form quite another story. As implied in an article published in February, my personal friends in the British medical profession were, to a man, agreed that additional major handicaps to proper treatment of ill patients had been interposed by the new legislation. The plethora of persons presenting minor complaints and requests has overburdened the general practitioners and this influx has deprived the seriously ill of the time with the doctor necessary for the recognition of that fact and for precise diagnosis. Although the cost of the medical provisions of the new legislation has vastly exceeded the original estimates, it is striking that the two major needs of British medicine: 1) increased numbers of trained consultants with more facilities for their work and 2) diagnostic and laboratory centers for general practitioners, have not been significantly touched by the program as yet. As long as the first of these deficiencies persists, patients who are obviously ill cannot get into hospitals to secure definitive treatment despite urgent pleas by the family physician to the appropriate consultant service. I have seen physicians devoting numerous phone calls over a period of weeks to the lone hospital in the region to which they might send a person with a brain tumour, describing the progressive deterioration of the patients, but failing to secure admission for lack of beds and personnel. It is small wonder that a doctor, after such disheartening experiences once he has made a diagnosis, may not trouble to try for any early diagnosis which might require therapy in a hospital.

The large number of patients to be seen by the doctor in the course of 24 hours—50 to 100 home and office cases per day is the current quota for many British physicians—

means that he must find some graceful tactic for terminating within a few minutes the interview with every patient. By far the simplest means of coping with this problem of keeping the line moving is the dispensation of a prescription, which happily for the goodwill of the patient costs nothing to him directly. A vast increase in the British expenditure for drugs has in fact occurred. The anomalous situation now appears to exist in Great Britain in which the only ones who cannot secure at least vaguely appropriate medical attention are those who are really ill. While more votes can undoubtedly be purchased at less cost by providing people with medicinals and with dentures, one hopes that in time funds will be spared and arrangements made so that a reasonable proportion of the British medical profession can be utilised in the care of serious illness.

Although many physicians continue their work with unflagging zeal, the manifest exploitation of their goodwill and industry has reached an end in some cases. A British physician addressing a group in Boston recently ventured to cite instances in which some doctors who had put in long hours at their offices prior to the National Health Service Act, had gradually reduced their total hours of work, racing through a much larger number of talks with patients for a shorter working day than that to which they were wont before the new law went into effect.

Such an attitude represents the beginning of a vicious circle which, if unchecked, will soon lead to the catastrophic situation wherein the doctor and the community at large will have become enemies. A Scottish physician recently visiting at the Massachusetts General Hospital volunteered that she did not know a single member of the British medical profession who had not gone through what she described as at least one "acute depression" over his lot under the present system. The medical book representative of a prominent British publishing firm wrote recently to Mr. Charles C. Thomas that he had made a trip about his country to see "why people were not buying medical books". He found that "the medical profession is full of unrest, is decidedly poorer than it has ever been before . . . and just has not got the money to spare for books".

For the benefit of those who have arrived at a less bleak picture of the scene from casual British medical contacts, one may point out that this proud and capable folk eschew a public washing of their dirty linen. Hence those whose information comes from longstanding personal friends are perhaps more likely to reach a truer evaluation than those who conduct a series of journalistic interviews with the avowed purpose of writing up their data for publication. Our experience with British medical visitors over the past 9 months has, however, shown an increasing trend in them towards a more outspoken criticism of their lot, and more and more of them are lashing back verbally in the open at the Government which has handled the whole problem of medical care so ineffectively.

The relationship of the medical profession in our United States to the economic and organizational aspects of its work now shows clearcut parallels to phases through which our British colleagues have already travelled. On the assumption either that governmental provision of medical care is the most satisfactory, or that it is an excellent method for garnering votes, or for both reasons, our federal executive administration is trying to lead us along a road strikingly similar to that along which our British confreres are now dolefully plodding. We physicians can but take our case to the country as a whole, presenting the facts as we see them. We have to overcome a tremendous public bias in favour of receiving vital services ostensibly at little or no

cost. In addition, the spotlight is thrown as never before on the defects of our current system, and salutary pressures are now being brought to bear upon us to undertake remedial measures. Unless we can meet such justified criticisms as those pertaining to the ineffective coverage provided by most forms of voluntary health insurance, all of these schemes may be deluged by an avalanche of votes in favour of government controlled compulsory measures. Those with grievances against individual doctors or groups of doctors now have little opportunity to be heard usefully short of legal action. Ought not our medical establishment provide the machinery for improving public relations and exposing and rectifying our own errors? We hope to preserve the right of each man to act as an individual in accordance with his own lights to improve the quality of medical care he renders. But unless we are also capable of determined unanimity both in the correction of our faults as well as against encroachment on our individual autonomy, we shall run the risk of losing it.

WILLIAM H. SWEET, M.D.

EDITOR'S NOTE: Dr. Sweet is assistant professor of surgery, Harvard Medical School; lecturer in neurosurgery, Tufts College Medical School; associate visiting neurosurgeon, Massachusetts General Hospital.

Bibliotheca Obstetrica

SÄNGER, MAX (1853-1903): Der Kaiserschmitt bei Uterusfibromen nebst vergleichender Methodix der Sectio Caesarea und der Porro Operation, Leipzig, Engelmann 1882.

Sänger was the first to recognize the importance of a water tight closure of the uterine wound in the Cesarean operation. He studied all the cases of Cesarean section that had been collected by Harris and others. Harris had emphasized the importance of early operation, but had not grasped the importance of sutures. Sutures were almost universally considered to be harmful. Spencer Wells and Robert Barnes each devised technics for removing the uterine sutures on the third day. Sänger, with his careful analysis of the reported cases and with the performance of one successful case, revolutionized the Cesarean operation.

Max Sänger was born in Bayreuth. He graduated in Leipzig in 1875, where he was a pupil of Credé. For most of his life he taught at the University of Leipsig. In 1899 he became Ordinarius and President of the Gynecological Clinic at Prague. He was co-editor of the *Archiv für Gynäkologie.*

For portrait see Thoms' Classical Contributions to Obstetrics and Gynecology.

NITROGEN MUSTARD TREATMENT OF HODGKIN'S DISEASE*

H. ST. GEORGE TUCKER, JR., M.D.,
and
WILLIAM R. KAY, M.D.,
Richmond, Virginia.

Under the sponsorship and coordination of the Committee on Growth of the National Research Council a widespread clinical study of the nitrogen mustard compounds has been going on for the past four years. A large number of investigators have taken part in this work. Reports from many of these groups have been published[1-9], and from time to time Dr. Cornelius Rhoads, chairman of the Committee on Growth, has summarized the clinical status of these substances[10-11].

From the observations thus far it is clear that the nitrogen mustards have some degree of usefulness in the treatment of lymphomas, leukemias, and allied disorders. Of the various conditions treated, Hodgkin's disease has shown the most promising results. In no sense is nitrogen mustard curative in this condition, but a considerable palliative effect has been obtained in most of the patients treated. More precise evaluation of this palliative effect is needed, and the exact sphere of usefulness of nitrogen mustard in relation to irradiation and other forms of treatment remains to be defined.

In this paper we wish to review briefly the nature and mode of action of nitrogen mustard, and to present observations on twenty-four patients with Hodgkin's disease treated with this substance.

THE NITROGEN MUSTARDS

The term "nitrogen mustard" refers to a class of chemical compounds having as their essential feature the beta-chloroethyl amine group. Two of these compounds, methyl bis (beta-chloroethyl) amine hydrochloride and tris (beta-chloroethyl) amine hydrochloride, have been given extensive clinical trial. These are commonly referred to as HN_2 and HN_3. The former appears to have less toxic effect[5], and is generally preferred. HN_2 was used in our cases. The material is obtained by application to the Committee on Growth of the National Research Council.

From the Department of Medicine, School of Medicine, Medical College of Virginia, and the Medical Service, Veterans Administration Hospital, Richmond, Va.

*Read before the annual meeting of the Medical Society of Virginia, in Richmond, October 18-20, 1948.

The nitrogen mustards are stable in crystalline form, but when put into solution undergo a series of rapid polymerizations. The intermediate products of these reactions have the desired potent cytotoxic effect, while the end products are relatively inert. For this reason it is necessary that the material be administered to the patient promptly after being put into solution.

The biological effects of the nitrogen mustards are strikingly similar to those of irradiation. Both have a cytotoxic effect predominantly on rapidly proliferating cells. Both appear to affect primarily the cell nucleus, and specifically to inhibit cell mitosis. It is thought that the action of the nitrogen mustard compounds is due to inhibition of some enzyme system of the chromosomes.

Nitrogen mustard produces damage chiefly to lymphoid and hematopoietic tissue. This is the basis of its therapeutic effect, but the accompanying bone marrow damage limits the amount that can be safely given. Unfortunately, the margin between effective and toxic dosage is narrow.

DOSAGE AND ADMINISTRATION

The usual course of treatment with nitrogen mustard consists of four intravenous injections of 0.1 mg. per kg. of body weight, given on successive days. Some investigators have given as many as six injections, but this amount increases the risk of severe bone marrow depletion. Studies are in progress on the effects of larger single doses in treating highly malignant neoplasms. In our cases, the dosage of four injections of 0.1 mg. per kg. each was used. With a few of the earlier patients injections were given every other day, but most of the patients were treated daily.

The best method of administration seems to us to be the injection of the mustard solution into the tubing of a running saline intravenous infusion, as recommended by Goodman et al[2]. The saline infusion is begun, then the nitrogen mustard solution is prepared and within five minutes the required amount is injected into the tubing. This technique allows prompt administration with adequate dilu-

tion, and minimizes the possibility of extravasation of the highly toxic agent.

Toxic Reactions

The toxic reactions to nitrogen mustard are listed in Table I.

Table I: Toxic Effects of HN_2

1. Thrombosis of vein
2. Nausea and vomiting
3. Blood depression
   a. Initial lymphopenia
   b. Late neutropenia and thrombopenia
   c. Anemia
   d. ? coagulation defect

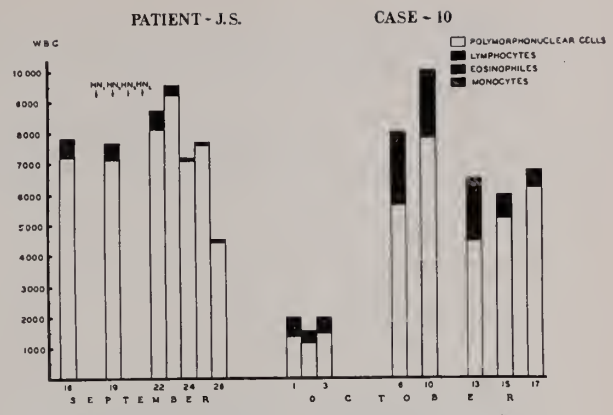
We believe that thrombophlebitis of the injected vein can be almost entirely eliminated by the use of the above technique of administration. It was encountered twice when the nitrogen mustard solution was injected directly into the vein, but in no case after the above method was adopted.

Nausea and vomiting occurred regularly in every one of our patients, beginning soon after the injection and lasting for several hours. Diarrhea was less common. These symptoms are apparently due to a direct toxic effect of nitrogen mustard on the gastro-intestinal mucosa[5]. They were usually not severe, and almost always subsided by the following day. In a few instances, the subsequent injection was deferred for one day because the patient remained weak, but in no case was it necessary to stop treatment. The use of atropine and sodium phenobarbital seemed to allay the gastro-intestinal reaction.

By far the most serious toxic effect of nitrogen mustard is the damage to blood forming tissue. This is the limiting factor which prevents the use of larger and perhaps more effective doses. All the elements of the peripheral blood may show this effect.

The leukocytes usually show an initial lymphopenia beginning soon after treatment and lasting only a few days. During the third week after treatment neutropenia develops with a drop in the total leukocyte count. This is of variable severity. The leukopenia usually lasts about a week, after which the blood returns to normal (Fig. 1).

These changes were observed in all our patients, although in some they were very slight. The total leukocyte count fell usually to around 3,000 or 4,000. In five cases, the leukocyte count fell to



SERIAL WHITE BLOOD CELL AND DIFFERENTIAL COUNTS FOLLOWING NITROGEN MUSTARD THERAPY

Fig. 1

below 2,000, the lowest being 1,300 with 40% neutrophiles. None of these patients showed any symptoms of neutropenia, but transfusions were given to a few. In all cases the blood count returned to its former level in about one month. When leukopenia was present before treatment, the leukocyte depression was no more severe than when the initial count was normal, and the blood count subsequently returned to about the pre-treatment level.

Some degree of depression of the platelet count was observed in two-thirds of our patients. This occurred during the second and third weeks and roughly paralleled the neutropenia. In five patients the platelet count fell to below 50,000, and in four of these petechiae were noted. These promptly disappeared after transfusions.

Anemia has been described as a toxic effect of nitrogen mustard, but most of our patients showed very little change in red cell counts after treatment. One patient did develop a severe anemia which may have been caused by the drug or may have been due to his disease. When severe anemia was present before treatment, transfusions were given before nitrogen mustard was begun.

Recently the occurrence of a blood coagulation defect following nitrogen mustard therapy has been reported[12]. No studies of clotting time were made in our patients. However, no hemorrhagic phenomena were observed other than the petechiae mentioned above.

Clinical Results

Twenty-four patients with Hodgkin's disease were treated during the period from April, 1946, to July, 1948. Of these, five were treated at the Medi-

TABLE II: SUMMARY OF DATA ON PATIENTS TREATED

Case	Patient	Age	Race and Sex	Duration of Disease	Previous Irradiation	Extent of Involvement	Most Prominent Symptoms	Results of HN2 Treatment: Course #1	Course #2	Course #3	Duration of Remissions: #1	#2	#3	Final Status:	Time After First Course of HN2
1	B.E.	14	C.F.	3 yrs.	0	Cervical, abdominal	Fever, wt. loss	Good	Good	Fair	4 mos.	4 mos.	1 mo.+	Living	2½ yrs.
2	W.McG.	35	W.M.	6 mos.	0	Generalized	Fever, wt. loss	Good	Fair		2 mos.	1 mo.		Died	6 mos.
3	O.J.	43	C.M.	1 yr.	0	Generalized	Fever, wt. loss, pain	Good	Fair		3 mos.	?		Living	4 mos.
4	H.R.	23	W.M.	5 yrs.	+	Mediastinal, abdominal	Fever, wt. loss, hemoptysis	Fair	Fair		1 mo.	½ mo.		Died	3½ mos.
5	E.S.	52	C.M.	2 yrs.	0	Generalized, incl. lung	Fever, wt. loss	None			0			Died	2 mos.
6	W.C.	49	W.M.	3 mos.	0	Abdominal, mediastinal	Fever, wt. loss	None			0			Died	2½ mos.
7	I.E.	6	C.M.	6 mos.	0	Generalized	Fever, wt. loss, jaundice	None			0			Died	2 days
8	C.P.	51	W.M.	10 yrs.	+	Generalized, incl. bone	Fever, wt. loss, pain	Good	Good	Fair	6 mos.	3 mos.	1 mo.	Living	15 mos.
9	H.G.	25	C.M.	2½ yrs.	+	Cervical, abdominal	Fever, wt. loss	None			0			Died	18 days
10	J.S.	30	W.M.	3 yrs.	+	Generalized, incl. lung	Fever, wt. loss	Fair	Fair		2 mos.	1 mo.		Died	5 mos.
11	C.W.	25	W.M.	2½ yrs.	+	Generalized	Fever, wt. loss, jaundice	None			0			Died	3 weeks
12	G.S.	43	W.M.	1 yr.	0	Generalized	Fever, wt. loss, vomiting	Good	None		1½ mos.	0		Died	4 mos.
13	S.S.	37	W.M.	4 mos.	+	Generalized, incl. lung	Fever, wt. loss, pain	Good	Fair	None	2 mos.	1 mo.	0	Died	6 mos.
14	E.C.	24	W.M.	6 mos.	+	Cervical, abdominal	Wt. loss, dysphagia	None			0			Died	10 days
15	H.M.	40	W.F.	2 yrs.	+	Generalized, incl. lung	Fever, wt. loss, pain	Good	Good		4 mos.	1 mo.		Died	11 mos.
16	A.L.	50	W.M.	4 yrs.	+	Mediastinal, cardiac	Fever, wt. loss, dyspnea	Fair	None	None	1½ mos.	0	0	Died	5 mos.
17	C.M.	45	W.F.	3 yrs.	+	Generalized	Wt. loss, pain, edema	Fair	Good	Good	1 mo.	1 mo.	1 mo.	Living	10 mos.
18	F.B.	47	W.M.	1 mo.	+	Generalized, incl. skin	Wt. loss, pain, cough	None			0			Died	1 mo.
19	A.R.	68	W.M.	6 yrs.	+	Intestinal	Fever, pain, vomiting	Fair			½ mo.			Died	1 mo.
20	M.K.	23	W.F.	5 yrs.	+	Abdominal	Fever, wt. loss	Good			?			?	
21	E.H.	64	W.F.	6 mos.	+	Generalized	Fever, wt. loss, pain	Good	Fair		1 mo.	1 mo.		Living	3 mos.
22	M.B.	58	W.M.	1 yr.	+	Generalized	Fever, wt. loss, pain	Fair	None		½ mo.	0		Died	3 mos.
23	J.B.	19	W.M.	1½ yrs.	+	Generalized	Fever, wt. loss, pain, edema	None			0			?	
24	H.C.	35	W.M.	3 yrs.	+	Generalized, incl. bone	Wt. loss, pain	Good	Good		9 mos.	2 mos.		Living	13 mos.

cal College of Virginia Hospital, eleven at the Veterans Administration Hospital, Richmond, Virginia, and eight by physicians in other hospitals who have kindly supplied us with detailed reports.

Table II summarizes the clinical data on these patients. The diagnosis of Hodgkin's disease was established in all cases by biopsy. In twenty cases the biopsy report was Hodgkin's granuloma, and in four (cases 6, 7, 14, and 22) Hodgkin's sarcoma. In one patient (case 5) progression from the granulomatous to the sarcomatous stage was observed.

In all cases the disease had become widely disseminated, and in all cases definite symptoms were present. There was considerable variation, however, in the apparent rate of progression. In some (e.g., cases 1, 8, and 24) the disease appeared to be very slowly progressive, and the general condition of the patient was good. In others (e.g., cases 2, 6, 14, 18) the duration of the illness had been brief and the course rapidly downhill.

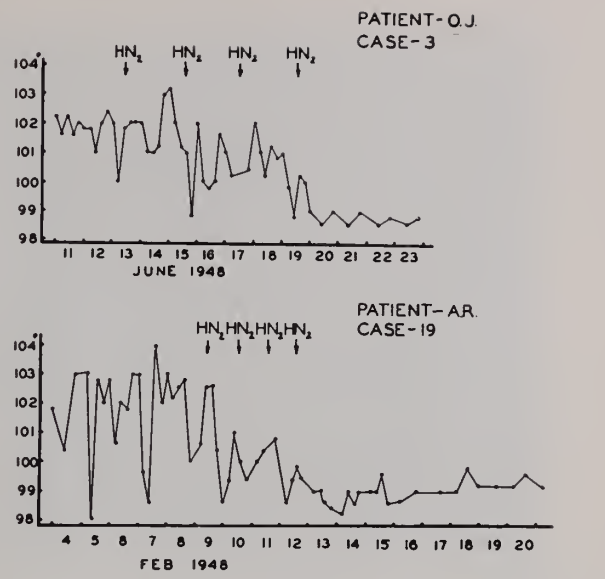
Seventeen patients had received previous irradiation. In these irradiation had become ineffective, either because of true radio-resistance of the tumor or because of wide dissemination. The other seven had had no previous therapy. Nitrogen mustard was given because the widespread involvement made irradiation seem impractical.

There can be no doubt that nitrogen mustard has a very definite effect in Hodgkin's disease. Some patients showed no change at all after treatment, but in most some type of beneficial effect was seen.

Symptomatic improvement was most striking. All the patients who showed any response felt definitely better after treatment. Their appetites improved and they felt stronger. Progressive weight loss was checked and in several instances a marked gain in weight followed treatment.

Fever was relieved in twelve out of twenty patients who were febrile. In some cases the temperature became normal after the first injection. More commonly, fever subsided by lysis over a five or six day period (Fig 2). Cessation of fever brought relief of sweats, headache, and malaise.

Pain was not a common symptom but was present in ten patients. These had pain referable to superficial nodes, or to pleural, abdominal, or vertebral lesions. In eight of these patients pain completely subsided after nitrogen mustard treatment. One patient who was bedridden with painful vertebral lesions was completely relieved and walked normally after treatment although x-rays showed further extension of vertebral destruction (case 24).



RESPONSE OF FEVER IN HODGKIN'S DISEASE TO NITROGEN MUSTARD

Fig. 2

Objective improvement was definite but less striking than the symptomatic relief. Enlarged lymph nodes generally showed softening and regression in size (Fig 3). Resolution of the nodes was not always complete. Enlarged livers and spleens became smaller but in most instances did not subside entirely to normal. Enlarged mediastinal nodes showed some decrease in size but did not entirely disappear. In general, large tumor masses did not respond very well to nitrogen mustard.

Fig. 3. Nitrogen mustard 5.1 mg. given daily for 4 days 5-21-48 to 5-24-48. Note marked decrease in size of mass of cervical nodes.

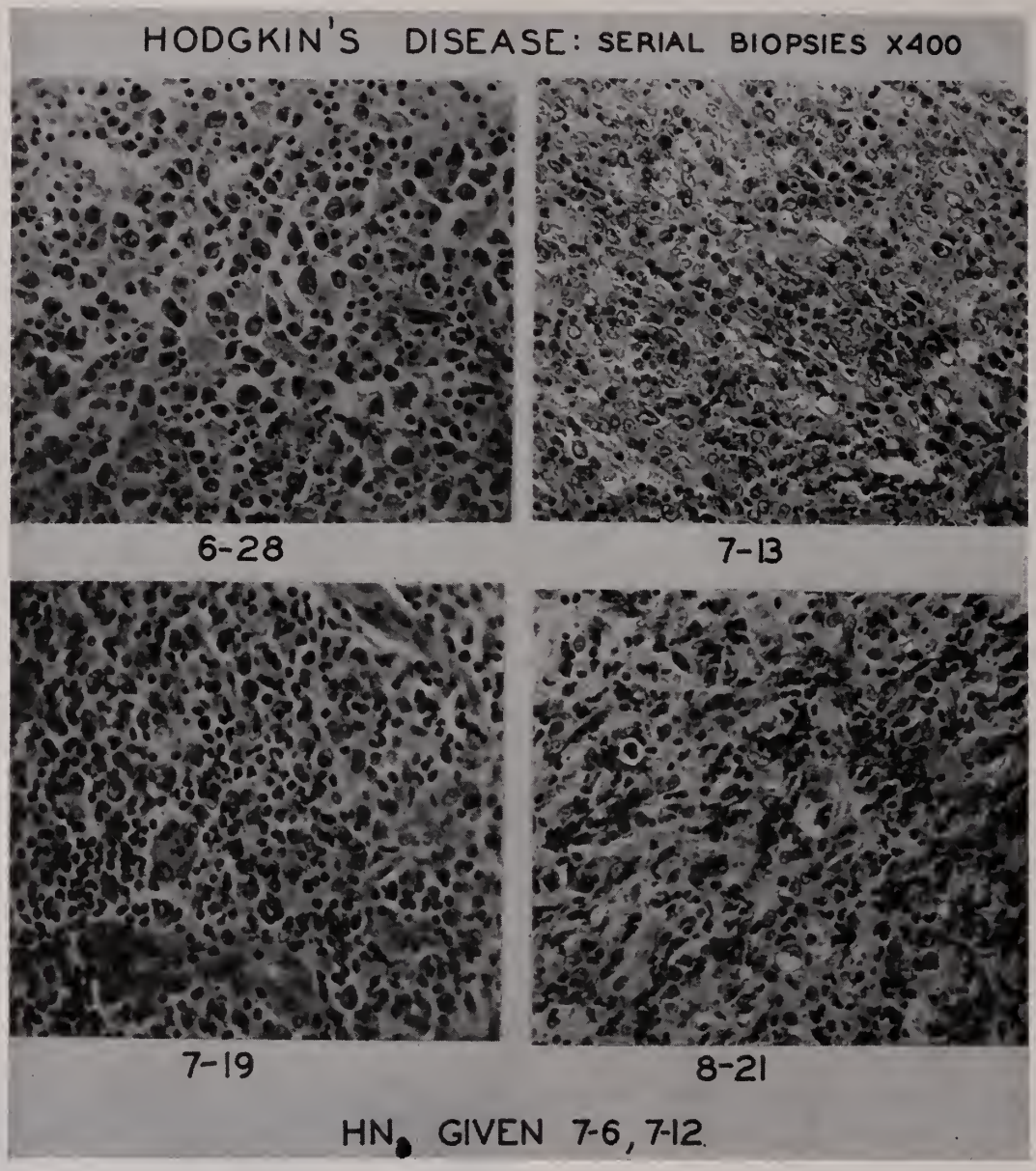


Fig. 4. Serial biopsies illustrate degenerative changes in Hodgkin's tissue in lymph nodes following nitrogen mustard with subsequent recovery of tumor. (See text)

Four patients with pulmonary infiltrations were treated. One of these (case 15) showed striking improvement. Two (cases 10 and 13) showed no response but were later found at autopsy to have a complicating tuberculosis. The fourth patient (case 5) was unimproved, and subsequently was found to have progressed to the sarcomatous stage of the disease. One patient with pericardial effusion (case 16) showed dramatic subsidence of fluid and relief of tamponade after treatment.

One patient with Hodgkin's disease of the skin (case 18) showed no improvement after nitrogen mustard, while skin areas which were irradiated cleared considerably.

Serial lymph node biopsies were obtained before and after treatment in case 5 (Fig. 4). The initial biopsy showed a typical Hodgkin's granuloma. This patient showed a very poor clinical response to treatment, but nevertheless marked degenerative changes are seen in the node removed immediately after completion of therapy. In the third biopsy a week later, the tumor tissue appears to be recovering. A

fourth biopsy one month later shows a definitely sarcomatous lesion. The transition from granuloma to sarcoma is fairly often seen in Hodgkin's disease, and there is no particular reason for believing that nitrogen mustard was responsible for this change.

In general, the effect of nitrogen mustard in Hodgkin's disease is the production of some type of remission. The remissions that we observed varied considerably in completeness and in duration. Inevitably, symptoms and evidence of progression of the disease recurred. When the initial response justified it, recurrences were again treated with nitrogen mustard. Treatment was not repeated within a month because of the danger of cumulative depression of the bone marrow. We know of no limit to the number of courses of treatment that may be given if the patient continues to respond and does not develop bone marrow depletion. However, to date none of our patients has had more than three courses.

In Table II, we have attempted to evaluate the total beneficial effect to the patient of each course of treatment. Results are listed as good where the patient very definitely improved both subjectively and objectively. Most of these patients became free of symptoms and were able to leave the hospital and resume some sort of activity. Results are listed as fair where definite improvement was seen but the remission was incomplete or very brief. Results are listed as none where the effects were either absent or so slight as to be of no benefit to the patient.

TABLE III: SUMMARY OF RESULTS

	Course #1	Course #2	Course #3
Good	10	5	1
Fair	6	6	2
None	8	3	2
	24	14	5

These results are summarized in Table III. On the initial course of treatment, results were considered good in ten patients, fair in six, and none in eight. These figures mean very little statistically, but give some idea of the results to be expected in treating this type of patient. It will also be seen that results were poorer with successive courses of treatment.

The durations of the remissions produced are listed in Table II. These have been disappointingly brief. While some longer remissions occurred, the mean duration is about six weeks. With successive courses of treatment, remissions tend to become briefer until finally no response is obtained.

Most of the patients treated have subsequently died. It does not appear to us that nitrogen mustard treatment has appreciably prolonged their lives. it has undoubtedly restored many of them to at least temporary comfort and hope.

DISCUSSION

These results are not at first impressive. But considering the type of patients who were treated, we believe that nitrogen mustard has been definitely useful. Most of these patients could have received palliation by no other means. Some of them might have been equally well treated with irradiation.

It seems to us that the results obtained are most closely correlated to the rate of progression of the disease. In the slowly progressive case, nitrogen mustard produces a good response and the remission may be of considerable duration. In the more malignant or rapidly progressive case, the response is poorer and the remission briefer. In the sarcomatous form of Hodgkin's the results are very poor. The underlying course of the disease is not altered. This is probably equally true of irradiation or of any other palliative measure that does not eradicate the disease.

The effect of nitrogen mustard on individual lymph nodes appears to us to be less than could be expected from irradiation. For this reason irradiation remains the treatment of choice in localized disease, or where, although spread has taken place, all the nodes are still accessible to irradiation. In very early localized disease radical surgery followed by irradiation should be considered.

Where large tumor masses are present, and may be causing pressure symptoms, we believe that irradiation will be more effective than nitrogen mustard.

When the disease has become widely disseminated and particularly where abdominal involvement is present, results with irradiation are usually poor. These are the cases where nitrogen mustard is most useful. The presence of severe symptoms, particularly fever, is usually indicative of involvement of internal nodes. In these cases, nitrogen mustard may give very gratifying results.

Figure 5 illustrates our conception of the difference in the effects of irradiation and nitrogen mustard.

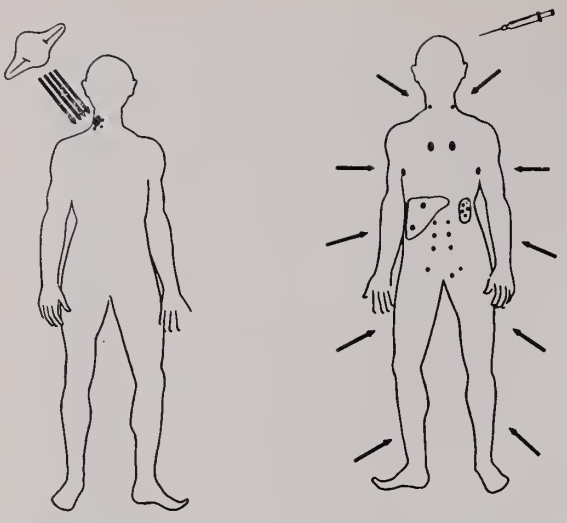


Fig. 5. Our impression of the difference in effects of irradiation and nitrogen mustard.

Irradiation exerts a more concentrated effect, in more readily controlled dosage, and is preferred in localized disease. Nitrogen mustard has perhaps a less concentrated effect in present dosages, but acts throughout the body and is preferred where widespread disease is present.

It is apparent that the present dosage of nitrogen mustard is ineffective against highly malignant forms of Hodgkin's disease. This applies also to other highly malignant lymphomas such as lymphosarcoma and reticulum cell sarcoma. In seeking palliation for these patients, we must accept greater risks. Studies are in progress of the effects of larger single injections of nitrogen mustard combined with irradiation in these cases.

Conclusions

1. The nature and mode of action of the nitrogen mustard compounds are reviewed.
2. Observations are presented on the treatment with nitrogen mustard (HN_2) of twenty-four patients with disseminated Hodgkin's disease.
3. Nitrogen mustard had a definite palliative effect in two-thirds of these patients.
4. Irradiation is the treatment of choice in localized or still accessible Hodgkin's disease.
5. Nitrogen mustard is the treatment of choice where widespread dissemination of the disease has occurred.
6. Nitrogen mustard in the present dosage is ineffective against highly malignant or sarcomatous Hodgkin's disease.

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Discussion

DR. BYRD S. LEAVELL, Charlottesville: Dr. Tucker has given an excellent discussion of the use of nitrogen mustard in the treatment of Hodgkin's disease. The experience which Drs. Kay and Tucker report in 24 patients with Hodgkin's disease is very similar to that which we

have had at the University of Virginia Hospital. The authors are very conservative in drawing conclusions. Perhaps it is worth emphasizing that the patients which have received this form of treatment have been patients in the terminal stages of disease or patients with widespread disease. Usually they had become refractory to other forms of treatment. The prognosis in this type of individual is quite different from the individual with localized untreated disease. The fact that no prolongation of life has been demonstrated is no serious criticism of this form of therapy since irradiation and other forms of therapy, even in the milder forms of disease, probably do not prolong life more than a few months. The fact that nitrogen mustard does have some effect on these individuals is the important thing. The dramatic clinical improvement that occurs in some of these patients, the cessation of pain, the disappearance of fever, the improvement in well being, are more impressive in the various individuals than the statistical results. Even more important is the hope that some compound with action similar to that of nitrogen mustard will be developed and will have less toxic reaction and a better therapeutic effect.

We have seen no toxic reactions except those associated with nausea and vomiting and leukopenia. As a rule the nausea and vomiting occurred one and a half to two hours after the injection and it has been possible to treat some patients on out-patient basis with this drug. If they have time to rest for half an hour and then reach home before the nausea and vomiting begins, we find no objection to treating these individuals when they are not confined to the hospital.

The course of disease in some of our patients has suggested that sensitivity to x-ray therapy was regained. Other authors have reported similar observations. The effect of combined x-ray and nitrogen mustard therapy has not been evaluated. I would like to ask Dr. Tucker if he has observed any incident of aggravation of symptoms following nitrogen mustard therapy. We had become accustomed to looking out for swelling in mediastinal tumors treated with x-ray, but felt that such a reaction was very unlikely with nitrogen mustard. We have recently seen an individual with Hodgkin's disease who had an extradural tumor in the spinal canal who developed complete block and progression of symptoms on two occasions after a course of nitrogen mustard therapy.

DR. J. POWELL WILLIAMS, Richmond: I should like to discuss very briefly the group of cases Dr. Tucker mentioned in his paper who received larger doses of mustard in combination with x-ray. I brought some films with me, but I do not see an illuminator, so will not be able to show them.

The first case was a patient who came up from North Carolina who had had a biopsy with marked increase in rate of growth immediately afterward. The histopathological diagnosis was lymphosarcoma. At that time, the mass was about the size of an orange, located in his right groin, and fungating through the biopsy wound. He was given 0.3 mg. of nitrogen mustard per kg. body weight, which is three times the usual dose. Within thirty minutes, he was gotten to the x-ray room and was given 1,000 r units of x-ray. The mass melted away like magic. It might have done so with nitrogen mustard alone or with x-ray alone, but nevertheless the recession was spectacular.

The next case was a man with a mass in the neck. It was not a large mass and could not account for the very high Pel-Ebstein type of temperature which went to 104 and 105 degrees. We concluded that he had a mass of glands in his retroperitoneal space, although we could not demonstrate them. So he was treated with nitrogen mustard and x-ray to the abdomen, the same dosage as above being used. On the fourth day his temperature returned to normal and his recovery was uneventful. Biopsy in this case showed Hodgkin's disease.

In the third case, I do not know exactly what the diagnosis is because the pathologists let us down. He was diagnosed as lymphoblastoma at Duke. We disagree with that diagnosis and preferred neuroblastoma. He has had four biopsies since which have only added to the confusion. He was treated with x-ray and the first time got a very good result and was sent home on a thirty-day leave. He came back after twenty-eight days because the mass in his left axilla had begun to grow again. He was treated again and sent home but returned in less time. Each time thereafter the period of remission was shorter. On the most recent admission, he presented a mass near the mid-line of the neck which displaced both the trachea and esophagus and made swallowing difficult, so we decided to augment our efforts by the use of nitrogen mustard. He was given 0.3 mg. per kg. intravenously and then taken immediately to radiology. Just as he was rolled in, the machine broke down. The roentgenologist, being a smart doctor, put him on the table anyway because he had been there before and knew what to expect. He got no radiation whatever, but the response to the mustard alone was good. The mass in his neck subsided and he experienced great relief, but today—thirteen days after treatment—he is complaining again of dysphagia.

The fourth case was a man of 23 with inoperable carcinoma of the lung whose tumor had continued to grow rapidly in spite of enzyme block and intensive x-ray therapy. He was finally given 0.3 mg. of nitrogen mustard per kg. intravenously and within half an hour 1000 r units of roentgen therapy through two portals. The disease did not falter in its stride and he continued rapidly downhill to his death.

The fifth case, a negro of 48 with adenocarcinoma of the rectosigmoid with metastases to the liver and lungs, was treated with the hope that the nitrogen mustard might render these notoriously resistant tumor cells more vulnerable to x-ray. He received two intravenous injections of nitrogen mustard combined with x-ray therapy with an interval of three weeks between. Both the liver mass and the x-ray shadows of the lung metastases increased in

size during treatment and he went on to death just as rapidly as if he had received no treatment at all; if not more so.

This was the only case so far treated in which the white blood count dropped below 1000 per cmm. It hit a low point of 750 per cmm. on the tenth day after the first treatment, but returned rapidly to a normal of 8000 before the second treatment. It was 10,000 at the time of death, with 180,000 platelets and 12 grams of hemoglobin.

The sixth and last case to be reported was a young white man who had had a mass in the lower third of the femur for more than two years which from x-ray examination had been thought to be benign cystic disease. It was finally biopsied and still there was doubt as to its true nature; a second biopsy was reported by the Army Institute of Pathology to be fibrosarcoma and the leg was amputated, but this time there were metastases in the lung and he was transferred to us for roentgen therapy. Because of the resistant nature of such tumors to the x-ray, it was more or less expected that little would be accomplished by this means alone, but it was started and continued until it was obvious that the original metastases were growing and new areas appearing. Then enzyme block was added with the same lack of results. Finally, nitrogen mustard 0.3 gm. per kilo followed by roentgen therapy 1200 r units through three portals within half an hour was super-added, but the disease progressed unabated to death.

Our limited experience would seem to indicate that nitrogen mustard even in relatively large doses is ineffective save in tumors of lymphoid origin and we have been unable to show as yet that the combined therapy offers any significant advantage over older methods. We have at present a group of eight or ten patients still under observation and expect to continue clinical investigation along these lines in the hope the future and more extensive experience may offer more encouragement.

NOTE:

12/30/48.—The first three patients in whom initial good results were reported have all since died of their disease. Patient No. 3, in whom the diagnosis was in doubt, has come to autopsy and apparently had an anaplastic carcinoma arising from the left main bronchus.

DR. WM R. KAY: In an article entitled "A Coagulation Defect Produced by Nitrogen Mustard", published in *Science* (**107**:474, 1948, May 7), the authors (T. R. Smith, L. O. Jacobson, C. L. Spurr, J. G. Allen, and M. H. Block) point out that in certain patients (and normal rabbits) nitrogen mustard therapy may produce a prolongation of whole blood coagulation time similar to the effect of ionizing radiation. The defect is due to the appearance of an anticoagulant in the blood biologically indistinguishable from heparin. Five patients with neoplastic disease treated with nitrogen mustard developed a prolongation of the coagulation time and two of the patients died, having diffuse large hemorrhages. Two of these patients received 0.1 mgm./kg. daily for four days, one received four injections of 0.1 mgm./kg. every 12 hours, one received four injections of 0.1 mgm./kg. at seven-hour intervals, and one received two injections of 0.3 mgm./kg. at six-hour intervals. It was not stated which patients died, but in view of the fact that, as Dr. Williams mentioned, larger doses are now being used in some patients, it might be worthwhile to determine coagulation times in these patients. The coagulation defect can be controlled by the intravenous administration of toluidine blue or protamine.

As regards the beneficial effects of nitrogen mustard in Hodgkin's disease, Rhoads, in his most recent summary, states that subjective improvement is seen in about 90 per cent of the patients treated, and objective improvement in about 75 per cent.

As Dr. Tucker points out, thromboses at the site of administration of the drug may be avoided by use of the method outlined.

I would like also to emphasize that the drug should be freshly prepared for each administration and any excess should be discarded.

DR. TUCKER, closing the discussion: We have not noticed preliminary swelling of tumor masses treated with nitrogen mustard, such as sometimes occurs following irradiation. We have thought that nitrogen mustard might be preferable to irradiation in the patient with a large mediastinal mass with tracheal compression, where even transient swelling and edema might endanger life. Further study of the early changes in lymph nodes following nitrogen mustard will be necessary to decide this point.

We did have one patient with Hodgkin's involving the pleura who developed a large bloody pleural effusion following nitrogen mustard treatment. It is possible that degeneration of the tumor tissue might lead to such undesirable results.

Dr. Williams has mentioned the use of large single doses. We are employing the single dose method now, giving usually 0.3 mg. per kilogram of body weight. We have treated only a few patients in this way. In some the results seem better than with the repeated smaller doses. In patients with large tumor masses we are using a single large dose of mustard combined with a single heavy dose of irradiation.

I agree with Dr. Kay that we should follow the clotting time especially when using the larger doses of mustard.

PROTEIN DEFICIENCY IN SURGICAL PRACTICE*

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Since the beginning of human history the loss of blood has been regarded invariably as a serious threat to life, but only within our memory has the loss of the non-cellular or liquid constituent of the blood received consideration. In the not too distant past, blood has been regarded as a physiological fluid consisting of cells suspended in plasma functioning as a unit and the possibility that the fluid could be lost without the cells received scant notice until Epstein conclusively showed that loss of proteins was associated with edema; Whipple[1] and his associates, by animal experimentation, stressed the vital part that plasma played in many body functions and explained many physiological and pathological manifestations which had previously baffled the profession.

Another deterrent to our progress has been the lack of a medium with which we could compensate for the loss of protein. As noted above, Whipple was one of the pioneers who focused our attention upon the value of proteins in maintaining nutrition, but he went further and pointed out that protein was essential in repelling and curing infections. Raydin[2] investigated some surgical aspects of protein, and his contributions will be referred to again.

In various surgical conditions the average requirement of protein may be altered to a variable degree, but it can be stated as a principle that any unusual demand upon the body protein will be reflected in the level or content of the protein in the plasma; therefore, the protein level may be regarded as an index of the reserve, which may be depleted until it reaches a critical level. Brief illnesses and minor operations do not as a rule upset the reserve, and any temporary deficiency is met by the normal physiological response plus alimentation. For example, an interval appendectomy or a simple herniaplasty will show a negative nitrogen balance for a few days, during which time the patient receives little food and may vomit occasionally. He depends upon the stored-up proteins to meet the temporary increased demand. We[3] have reviewed a series of such cases and have shown that the amount of nitrogen excreted is in excess of the nitrogen intake, parenterally or otherwise, and usually the patient is in a negative balance or sustains a net loss of nitrogen. Just as soon as the patient can assimilate adequate food, his nitrogen balance is adjusted; and, should he gain weight, there may exist a positive nitrogen balance.

There are three sources of proteins within the body which can be drawn upon by the normal physiological mechanism, both in health and disease. Whipple[5] classifies them as: (1) Labile reserve, which is quickly and readily appropriated, (2) Dispensable reserve, largely residing in the muscles, (3) Indispensable or fixed tissue protein, a constituent of the liver. The mechanism by which these classes of proteins become available is complex and often modified, and even nullified by organic disease. Proteins can be regenerated even in low constitutional states and in the absence of adequate protein intake. In the presence of a long continued drain on the protein mechanism, the level reaches a low point and is often arrested, suggesting some sort of protective mechanism.

The average healthy individual maintains his protein level by an adequate diet and can meet the emergency of minor and brief major operations without serious depression of his nitrogen balance or plasma protein. We are more concerned with the patient whose proteins are depleted and must submit to operative measures. That such situations are not uncommon is borne out by our observations of consecutive cases admitted to Gallinger Hospital, which showed that, in 50 cases on admission, the protein level was subnormal in 16.5% of cholecystitis; 33 per cent in carcinoma of the stomach, and 33 per cent in cases on non-bleeding duodenal ulcers. Other clinicians had similar experiences.

These are some of the factors which are concerned in the reduction of plasma protein:

(1) Inadequate intake, which may arise from a variety of circumstances, such as voluntary restriction, starvation, anorexia, chronic alimentary obstruction.

*Read before the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1948.

(2) Mal assimilation such as may arise from diseases of the stomach and pancreas.

(3) Failure of the protein forming mechanism, seen most frequently in diseases of the liver.

(4) Excessive loss by the way of a gastro-intestinal fistula, diarrhea, excessive emeses, gastro-intestinal tubal aspiration, constitutional diseases, malignancies.

(5) Immoderate demands by hypermetabolism, noted in thyroid disease, protracted fevers and excessive physical activity.

Although a few additional causes of protein deficiency could be added, it is not necessary to elaborate on the various items listed, as they are almost self-evident. These would apply to the chronic rather than the acute type of hypoproteinemia, as the deficiency is usually designated. Experience has indicated that 6.5 grams of protein in 100 grams of plasma is a normal percentage for all practical purposes, while the lowest level consistent with a good prognosis is 5.0%—by common consent called the critical level. Between these two levels a state of hypoproteinemia exists, the degree accentuated as it approaches the critical. A single estimation without consideration of dehydration, hemoconcentration, edema, or hemorrhage can be misleading; and all factors contributing to its variation should be evaluated before measures are undertaken to remedy any apparent deficiency. The ratio of the albumin to the globulin in the plasma is roundly two to one, but for practical purposes the ratio can be forgotten in the majority of surgical cases and only the total protein content be estimated. After all, it is the albumin which is the more active fraction and the one that is responsible for most of the problems concerned in meeting protein deficiencies.

Miranda[7] has suggested a classification of nutritional deficiences which has much to recommend it. Those conditions due to insufficient nourishment may properly be divided as follows: (1) Undernutrition, or inadequate caloric intake; (2) Malnutrition or vitamin deficiency; (3) hypoproteinosis, deficiency of protein intake. Miranda proposed the latter name, hypoproteinosis, for which we have been calling hypoproteinemia, and makes a sharp distinction between the two. Hypoproteinemia is a symptom, but not necessarily a constant one, of hypoproteinosis, which in his definition includes many other conditions than low plasma protein levels. Hypoproteinosis includes all those conditions which involve low protein intake; he believes that it affects young children and may be characterized by delay in growth, diarrhea and lack of immunity to disease. Dehydration is often present with its attending low blood pressure, cold extremities and dry skin. His observations and deductions are interesting, if not convincing.

For the clinical consideration of the protein deficit, it is both convenient and practical to consider the acute and chronic states separately, although two may merge. The best example of acute deficiency is hemorrhage, but it should be recalled that serious and sustained loss of plasma alone may be noted in general edema, intestinal obstruction, burns, shock, and dehydration. While these conditions are often met in an acute form, they may assume a chronicity, as in slowly healing burns. Under such conditions complete hemograms, specific gravity of the blood, and hematacrit estimation should be laboratory procedures in addition to determining the protein level.

Plasma volume determination. according to the method of Evans, is without doubt a much more accurate way of assessing the protein content of the blood. Most hospital laboratories are not equipped or not conversant with it, and, consequently, it is not a service the medical or surgical clinician can obtain. It may be established as a routine laboratory procedure in the near future.

The deficiency in the acute conditions is best met by a knowledge of the underlying cause. There is no substitute for blood when blood has been lost, but the use of plasma as a stop gap, when the proper type of blood is unavailable at once, has a definite place in the treatment. When loss of blood is not the exciting cause of hypoproteinemia, then blood must be used cautiously, as its over-use may be attended with packing the capillaries with cells, and the danger of reaction is not negligible. If time is an important factor, we may expect prompt response with a minimal risk. When an emergency does not exist, there are several amino-acid solutions for intravenous use which are reliable; and they can be supplemented by highly concentrated amino-acid mixtures for oral use. The response to this therapy is often satisfactory unless the underlying cause is irremediable. Shock is so frequently associated with hemorrhage that some confusion arises in the differentiation, and in such instances the liberal use of plasma is good therapy, with or without blood; too

much dependence should not be placed upon solutions of electrolytes and glucose, as their effects, insofar as restoring blood pressure are concerned, is fleeting.

The consideration of chronic protein deficiency presents a formidable list of surgical diseases and complications, but it is a phase of surgical pre-operative and post-operative treatment that has received sporadic notice. A partial list of the conditions in which we find protein depletion would include post-operative edema, prolonged infections, persistent gastro-intestinal fistulae, peritonitis, hepatitis, cirrhosis, ulcerative colitis, hyperthyroidism, malignant neoplasms. In any of the foregoing, the level of the protein may be conspicuous by its low state, but completely overlooked unless an estimation is made.

The symptoms of deficiency of protein do not stand out as an entity, but are submerged with other complaints and signs of the primary disease. There are some symptoms, however, which are indicative and suggestive of a low protein level, and it may be well to consider now the chronic type. Suppression of urine is not an infrequent accompaniment of many surgical conditions, and it has been shown that upon osmotic pressure the excretion of fluids is largely dependent. The lowered content of the albumin in the plasma is reflected in the renal function; and by re-establishing the level the excretion of water is greatly facilitated. The impairment of the liver function as the result of low proteins is now recognized. Gyorgy and Goldblatt[4] found that necrosis and cirrhosis of the liver were present in rats on a low protein diet, and it has been corroborated by other investigations, and the addition of metheonine to the diet would prevent the pathological changes in the liver. Beems and Endicott have applied the research in a series of clinical cases with a very favorable response. We are on the threshold of some important advances in hepatic disease largely related to protein.

One of the most striking effects of protein deficiency is the loss of body weight and strength. During the post-operative period the demand for protein is usually not satisfied either by the ingestion and assimilation of food or by parenteral fluids; consequently, the labile and dispensable reserves are drawn upon, as well as the stored sugars and fats. If the replacement is insufficient, loss of weight becomes an actuality although rarely is any attempt made to weigh the patient. The loss of weight following major operations varies from five to fifteen pounds. That proteins participate in the loss is incontrovertible as a determination of the nitrogen balance day by day will verify. We[3] have investigated and reported a series of cases where an accurate record was kept of the intake and output of protein and a negative balance was always present in our cases in major operations. One could be deceived by the mere maintenance of the patient's weight if scales were the only criterion of loss, because the liberal use of parenteral fluids, often with an excess of sodium chloride, leads to edema. Low plasma protein is often associated with accumulation of interstitial fluid, referred to as surgical edema. Under either of these conditions, a patient may show an increase in weight after an operation, but in a negative nitrogen balance. We should regard loss of weight as an invasion of the patient's reserve of protein. Swelling of the scrotum, edema of the face, hands, and back are early signs of surgical edema, but these are only the external or visible evidence. At the same time there is hidden edema in the muscles, the lungs, and even the heart may be involved.

The chronic surgical case often presents a nutritional problem, particularly in reference to protein; and it is well not to forget that every cell in the body contains some form of protein. Most of us can recall cases of persistent vomiting, incomplete intestinal obstruction, diarrhea, discharging fistulae, or malignant disease in which there has been a steady decline in the weight and strength of the patient that is not reflected in the routine hemogram or urinalysis. In such cases adequate laboratory examinations will demonstrate that a negative nitrogen balance is present and the plasma protein is approaching the critical level. We should alert ourselves to the possibilities in such cases, not that the downward trend can always be arrested, but at least an intelligent effort can be made in that direction.

Surgeons have been baffled and embarrassed by the disruption of abdominal incisions which had been closed with meticulous care in a routine manner. For no accountable reason the wounds open or disrupt with little or no evidence of healing about a week after the operation. It has been convenient and usual to place the blame on catgut, insecure knots, or acts of the patient, such as coughing,

sneezing, or getting out of bed. The explanations were not convincing because the concepts were not in accord with facts. Ravdin was able to show beyond a reasonable doubt that most of the accidents occurred in animals in which there was a deficiency in protein, but the wounds healed promptly when adequate protein was given. Subsequent clinical experience corroborated Ravdin's work and now it is accepted by those qualified to judge that low protein level delays the healing of ulcers, bedsores and surgical wounds, irrespective of their location. Co Tui has convinced many that the healing of peptic ulcers can be accelerated by the use of amino acids, which is just another way of furnishing protein.

Many unexplained intra-abdominal surgical complications, such as leaking anastomosis, and obstruction, may be closely related to protein deficiency. How, then, shall the deficiency be met in the chronic case? We do not believe it is practical to run a nitrogen metabolism test on each patient, but the routine laboratory examinations plus a plasma protein level should be obtained in any case and at any time that the question of protein deficiency arises, and the decision will be based on a comprehensive history and a careful examination at such periods as our judgment would dictate. As noted under acute hypoproteinemia, blood transfusions have a place where more blood cells are needed, but aside from this we should depend on plasma and amino acids plus glucose parenterally, to which are added such alimentations that supply protein, carbohydrates, and fat that can be assimilated. We are so compelled for many reasons to rely on parenteral solutions to maintain nutrition and supply a reasonable number of calories, that our first thoughts turn to solutions infused directly into the circulation. The cost of plasma prohibits its use in large amounts or over a long period of time, although it is almost an ideal source of protein because it is utilized more rapidly than any other intravenous solution, and if properly prepared and given, is devoid of risk or reaction.

We are often compelled for obvious reasons to rely on parenteral solutions to maintain nutrition as well as to supply a sustaining number of calories, and there are at hand a variety of preparations for this purpose. The cost of plasma, at least until recently, prohibits its unlimited use, although it has the advantage of being rapidly utilized, has minimal reaction and may supply antibodies which could be a factor in combating infections. Just what protection or curative measures lie in the globulin of the plasma cannot be expressed in statistics, but enough evidence is at hand to believe it has a therapeutic value. Should it be asked how much plasma should be given at a single administration or how much daily, I would say that I do not know, but 20 c.c. for every kilo of body weight in 24 hours is not far wrong. A word of caution is necessary regarding the use of pooled plasma. Unless every single donor contributing to the pool is thoroughly screened, the danger of hepatitis cannot be ignored. It is better to use plasma from a single individual in which the possibility of hepatitis does not exist.

Garrott[6] and his associates, in a recent contribution to the therapy of hypoproteinemia, on the basis of the critical study of nine cases, found the protein concentration was most effectively altered by the administration of blood and plasma. He noted that while the level in the plasma was not always immediately elevated, the total plasma in the circulation showed a marked response. Though it was possible to maintain nitrogen balance, much protein introduced into the circulation through the use of blood and plasma could not be accounted for, and it was presumed that it was converted into tissue protein. Whipple originally proposed this explanation.

The response to any form of protein therapy may not be apparent in the plasma level, particularly in protracted illnesses; and impaired activity of the protein-forming mechanism residing in the liver could account for the delay, but the response is more rapid after blood and plasma than any other intravenous fluid.

They felt that whole blood added considerable protein through the hemoglobin and should especially be indicated even in mild anemia with low plasma protein. They conclude their contribution by stressing the generous use of blood and plasma and urge the necessity of increasing the available supply of both.

We have used most of the amino-acid solutions now offered to the profession; and, though we have our preference, most are satisfactory if given with the technical care the procedure rates and with observation of the patient during the administration. We have found that with amino-acids alone it is almost impossible to keep the patient in nitrogen equilibrium, and for that reason we have supplemented this form of therapy with glucose in salt

solution and glucose in distilled water. By this means it is possible to maintain a positive balance and supply adequate calories for a convalescent patient. It has been our practice following most major surgical cases, particularly those involving the gastro-intestinal tract, to give 1000 c.c. of amino-acid solution, 1000 c.c. of 5% glucose in saline, and 1000 c.c. of 5% glucose in 1000 c.c. of distilled water in the first and second post-operative twenty-four hours, gradually tapering off as the patient tolerates liquids. To this we frequently add vitamin B complex and vitamin C, not because there exists a clear indication for their use, but because parenteral fluids are deficient in vitamins, and no ill effects follow their use. There seems to be no formula or guide that has been generally adopted for the use of vitamins, but their use seems empirical, or rests on no firmer foundation than the fancy of the medical attendant.

Those patients in which some type of gastric or intestinal drainage has been employed, such as the Wangansteen, Canter, or Harris tube, over a period of hours or days, will need more than 3000 c.c. of fluid parenterally. Should the patient present evidence of serious protein deficiency, more active measures should be adopted, chiefly by increasing the amount of plasma. When the plasma level approaches 5 grams or less, no form of protein therapy is followed by an immediate response, but perseverance is the keynote of the treatment.

Bovine plasma is not a safe substitute for human plasma, and at this writing has no place in the therapy of protein deficiency. Concentrated albumin and globulin from human plasma almost eliminate themselves by reason of the expense of preparation and do not warrant much discussion as a routine therapeutic agent. No preparation of gelatin is equal to the amino-acid solutions in protein deficiency; gelatin contains very little available protein and it has been recommended chiefly to raise or maintain blood pressure in shock.

Several years ago we attempted to utilize ascitic fluid obtained from patients with hepatic cirrhosis as a substitute for plasma, visualizing it as a protein solution in abundant supply, but, first using it on animals, we found its effects unpredictable and sometimes alarming. Davis, who assisted us in this work, has continued the investigation and reports some satisfactory results, but it has not found much popularity.

We are in entire accord with Sir Berkeley Moynihan, when he said, "We have made surgery safe for the patient; now let us make the patient safe for surgery."

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DISCUSSION

DR. CHARLES M. CARAVATI, Richmond: Dr. White has presented to us convincing evidence that low protein reserves are common in surgical disorders, particularly in post-operative states. He states that about one-sixth of the patients with cholecystitis and one-third of patients with uncomplicated peptic ulcer show low serum proteins upon admission.

The need for proteins in all surgical disorders is well known. Wound healing requires adequate available protein. Weight loss, which always occurs post-operatively, causes a reduction of serum protein, due to lessening of the blood volume.

To meet these requirements, adequate protein must be given: In order to raise tissue protein one gram, about 30 grams of serum protein must be formed. Therefore, large quantities of utilizable protein must be administered.

The oral route is always preferable. Restoration of normal serum levels are more readily accomplished in this manner than by the parenteral routes. Post-operatively, this may be given through the oro-jejunal tube, inserted at operation. Whole blood is the most effective intravenous substance to correct hypoproteinemia. Plasma and amino acids raise serum levels very little. You cannot maintain positive nitrogen balance by the giving of any known single protein.

It is important to emphasize that there is seldom a single deficiency. When protein stores are exhausted, there are usually other deficiencies such as vitamins and electrolytes. Most often when there is hypoproteinemia, post-operatively, there is also hypochloremia. Therefore, in planning substitution therapy, we should administer all substances which are deficient—replace proteins, chlorides, potassium, vitamins, blood and all other substances which may be inadequate.

I want to thank Dr. White for again emphasizing the importance of supplying protein to surgical patients. He has been one of the foremost advocates of the use of supplemental proteins in all types of surgical pathology and has had extensive experience with substitution protein therapy.

THE EARLY DIAGNOSIS OF BRAIN TUMOR*

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Writers on the subject of brain tumor prior to 1900 and during the first two decades of this century emphasized the importance of early diagnosis but they had so little to offer in accurate localization and cure that the profession was not interested in a condition with such a dismal outlook. Even at the present time, with the results of surgical treatment of brain tumor comparing favorably with the results of treatment of other major tumors there is still much pessimism in the minds of some of the profession as to the benefit of surgical treatment of brain tumors or indeed of any intracranial lesion.

The diagnosis and treatment of brain tumors made no progress until the surgeon assumed responsibility for diagnosis, localization, operation and post-operative care, and ceased to function merely as the hands of the neurologists. In a discussion of brain tumors one naturally thinks of the monumental work of Sir Victor Horsley and Harvey Cushing, both of whom were pioneer neurophysiologists as well as neurological surgeons. Under Cushing the operative technic of brain tumors far out-stripped diagnosis but because of inaccurate diagnosis and localization many of the operative procedures consisted only of a subtemporal decompression for the relief of general pressure from a tumor with its location still unknown.

A patient with a brain tumor cannot be expected to make any material improvement unless the tumor is removed. Decompression for the relief of general pressure from tumor, while protecting vision and reducing headache, nevertheless accomplishes no lasting benefit. Early diagnosis of brain tumors with modern neurosurgical methods permits removal of the tumor before local pressure may cause permanent damage of adjacent areas of the brain or before generalized pressure results in impairment or loss of vision.

The progress made in the treatment of brain tumor during the last two decades is due in a large measure to the alertness of general practitioners, internists and ophthalmologists who have become brain tumor conscious and thus obtain early treatment for these cases. By merely suspecting a tumor, in the presence of chronic, progressive cerebral disturbance, there is sufficient conviction to have such studies made as will either verify or disprove a tumor.

A complete discussion of diagnosis in brain tumor would require a consideration of all that is known of cerebral physiology. Therefore, this discussion will be largely confined to general signs and symptoms which may lead to a suspicion of an intracranial neoplasm. The diagnosis of brain tumor is not a laboratory diagnosis, regardless of how many such studies are made. In most cases the physician will find himself, at the completion of many laboratory studies, about where he started.

At this point it may be well to speak of some of the studies and observations ordinarily used to determine whether a patient has an intracranial neoplasm. A careful clinical history and neurological examination are essential in every case of chronic cerebral disturbance. Clinical examination may give sufficient objective findings to warrant further study and tests to establish or rule out a suspected localized intracranial lesion.

Those who are interested in the subject of brain tumors, through their own experience and that of others, have learned to suspect brain tumor in the presence of certain simple and easily observed phenomena. As one of many examples, when a patient presents himself complaining of headache and during the consultation keeps one eye closed, a safe assumption is that he has double vision and closes one eye to prevent diplopia.

Many years ago when brain tumor was recognized only after the growth had produced tremendous intracranial pressure, the symptoms of brain tumor were listed as headache, choked discs and vomiting. All of these, when due to tumor, are late

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signs and symptoms of increased intracranial pressure due to obstruction of the cerebrospinal fluid circulation. Vomiting is usually a late symptom when due to tumor. It is not of much value in the diagnosis unless accompanied by persistent headache, for vomiting may be caused by so many other conditions. However, when severe headache from brain tumor is accompanied by hurried vomiting it is a sign of serious intracranial pressure such as may prove fatal unless promptly relieved. In young children with frequent unexplained vomiting, a neurological examination should be done with careful examination of the eye grounds. Nearly all patients with brain tumor causing other symptoms have headache, but headache alone without supporting signs is rarely an indication of brain tumor. Furthermore, since headache is one of the most common of human complaints and brain tumor is relatively rare compared with the number of headaches, a very small percentage of patients with headache have brain tumor. The observing physician will soon learn that headache of brain tumor differs from that of headache due to other conditions. For instance, the headache resulting from migraine is one of the most severe types but it has typical characteristics. Patients with brain tumor, even with choked discs, often complain little of headache unless asked about it, whereas, patients with functional headache will complain bitterly and incessantly and state it cannot be relieved by any treatment such patients have usually had. The headache of brain tumor usually can be relieved easily, at least temporarily. Often five or ten grains of aspirin will relieve such headache. Getting out of bed and walking around may relieve the headache. One will find that headache of brain tumor is usually worse in the morning after the patient has remained horizontal for some hours, increasing venous stasis in the brain and causing greater intracranial pressure. When there is sudden, violent headache in the occipital region in a patient with a history of chronic headache, one would suspect a sudden block of the ventricular system and should expect a fatal outcome unless the intracranial pressure is promptly relieved. The more severe a headache may be from tumor, the more dangerous it is to give opiates for relief. In such cases the severe intracranial pressure from the tumor is already impairing action of the center of respiration and administration of morphine or other opiates simply adds to the embarrassment of the already compromised respiratory center. While headache is present in a great majority of brain tumor cases by the time the physician is consulted, some patients with large tumors have no complaint of headache at any time during the course of the disease. It is probable that unless the tumor is attached to the parietal dura or unless it is causing ventricular obstruction, headache will not be a chief complaint. The location of headache in brain tumor is of little value in the localization of the lesion.

Choking of the optic discs is an objective finding of greatest importance in the study of intracranial lesions. In the early years of brain tumor surgery it was considered necessary to find choked discs before one would agree to the diagnosis of brain tumor. Modern diagnosis often requires the recognition of tumor before the development of papilledema. There are two main effects of brain tumor: first, the local effects or impairment of function of cerebral structures in contact with the tumor; second, generalized increased intracranial pressure. It is highly desirable to recognize the presence of tumor and its location before permanent damage is done locally or to vision by intracranial pressure.

A tumor of the motor cortex, which is one of the easiest of all to diagnose, should be strongly suspected and in many cases diagnosed by its local cerebral effects, such as Jacksonian convulsions with progressive weakness of the extremity involved. Another easily recognized lesion is that of tumor of the pituitary which should be detected before the patient becomes blind from pressure on the optic chiasm. Tumor of the motor area and pituitary are practically self-localizing and announce their presence by characteristic clinical signs and symptoms. If a tumor in the motor area is allowed to grow, the patient will usually develop choked discs in addition to paralysis of the contralateral extremities.

It is well to remember that objective findings are of greater importance than subjective complaints in the study of brain tumor. Choked discs or visual field defects, progressive loss of sensory and motor function on one side, or Jacksonian attacks are so clear cut there should be no doubt of the presence of a cerebral lesion.

Unlike tumors, such as cancer, in other parts of the body, malignant tumors of the brain do not become inoperable primarily because of the length

of time they have existed. On the other hand, cancer of the breast, stomach or bowel becomes inoperable at a certain time, due to extensive metastases. Tumors of the brain do not metastasize. While the brain tumor may not become inoperable, complete removal is not always possible as in extensive infiltrating gliomas. Moreover, there are certain inoperable brain tumors because of location. Among these are pontine tumors and infiltrating tumors of the left motor and speech areas.

The importance of X-ray examination in the diagnosis of cranial and intracranial lesions is well recognized. However, there are not many instances in which plain skull films will disclose a tumor although it may be suggested by certain secondary changes in the skull. In late cases, convolutional impressions, thinning of the skull and separation of sutures in children are frequently seen on films from high intracranial pressure. X-ray study of the skull in pituitary tumors gives most important information. In these cases the sella turcica is enlarged and there are generally some erosive changes in the walls of the sella. In some meningiomas, a very common benign tumor of the brain, there are very often bone changes with enlargement of the blood vessel grooves of the skull overlying the tumor. In tumors of the cerebellopontine angle there is frequently enlargement of the internal auditory meatus with erosion of the petrous portion of the temporal bone. In certain rare cases there may be calcification in the tumor which will be demonstrated on X-ray films. When the pineal body is calcified, as it is normally in a large percentage of adults, considerable information can be gained as to whether it occupies its normal midline position or whether it is shifted away from the side of a mass lesion by local pressure. In the vast majority of early cases, however, plain X-ray films will not give the information desired, particularly as to the location of the tumor. In many cases, X-ray films of the chest prove of more value in the diagnosis of brain tumor than X-ray examination of the skull. It is routine in our clinic in the study of brain tumor to make X-ray plates of the chest in every adult patient. We insist on this even when physical examination of the chest by the internist has disclosed no signs of pathology. If a tumor of the lung is disclosed in the presence of marked cerebral symptoms, then one may often conclude there are metastases in the brain.

Brain surgery became an established specialty only after the development of ventriculography by Dandy in 1918. This is the most valuable contribution yet made not only to the diagnosis of brain tumor but to cerebral surgery as a whole. The authors believe there are two outstanding and most important contributions to the diagnosis and treatment of brain tumors: (1) the meticulous closure of the operative wound which Cushing emphasized and practiced, (2) precise localization of the tumor by air studies as developed by Dandy. Tumors of the brain could not be treated successfully in the absence of either.

A few years before Dandy developed ventriculography, Von Eiselberg stated there were only two kinds of brain tumor that were operable—those which were made manifest by Jacksonian attacks, therefore were in the motor area, and those of the pituitary in which there was visual impairment and the X-ray films showed enlargement of the sella. With modern diagnosis it is possible to locate, operate and remove tumors successfully in practically every part of the brain.

It is difficult for one entering brain surgery since Dandy's contribution to appreciate the uncertainty and discouragement of surgery of brain tumors prior to that time. There were brilliant medical neurologists but it was impossible for them by clinical study alone to make accurate localization. Many tumors removed today could not be diagnosed nor even suspected when relying on neurological study without air injection. The more experience one has in the diagnosis of brain tumor, the more he realizes the value of air studies for precise localization. With such information it is possible to make a direct approach, therefore requiring a much smaller exploration. Even so, the value of air injection has by no means excluded the importance of careful clinical study of the patient as a primary part of the examination. Unless clinical study indicates the need of ventriculography, obviously it should not be done. Air injection, or any other operative procedure no matter how minor it appears, is not without some danger. If ventriculography or encephalography shows no evidence of tumor or other space restricting lesion, the danger of the test is extremely slight, but if the films show a tumor, then immediate operation is demanded. With proper clinical study, supplemented by air injection, the diagnosis of brain tumor is about as accurate as

diagnosis of lesions of the kidney in which there are also mechanical aids to diagnosis.

The profession generally thinks of brain tumor as a slowly developing lesion with symptoms that also develop slowly. This is usually the case, but there are cases of brain tumor (about 25%) that manifest themselves in an explosive manner, simulating the sudden onset of symptoms of a cerebrovascular accident. For instance, a tumor in the ventricle, due to suddden change of posture, may block the ventricle and produce immediate symptoms not unlike that of an apoplectic stroke. The walls of blood vessels of rapidly growing brain tumors are fragile and may rupture, giving rise to sudden onset of symptoms by enlargement of the tumor. In some cases a patient may develop sudden symptoms from thrombosis of one of the large vessels in the cerebral hemisphere. The result may be extensive softening of the brain with edema, and displacement of the structures to the opposite side of the skull. Air injection in such a case may not differentiate between thrombosis and tumor but in either case operation should be done. Air studies should be made in all cases where there is only a slight possibility of tumor.

A patient may have a brain tumor for years and suddenly develop symptoms from rapidly increasing cerebral edema caused by the tumor acting as a foreign body in the brain tissues. We have seen this in a number of cases in which the tumor was small and did not block cerebrospinal fluid circulation but the hemisphere in which the lesion was located was edematous and greatly enlarged as compared with the other side.

Convulsions have their greatest frequency in children, and ordinarily these convulsions are not due to an intracranial neoplasm. The attacks do have a definite underlying pathology which is often atrophy or scarring of the brain as shown by air injection. In these cases, in which intracranial pressure is not high, a spinal air injection is done. When convulsions develop after the age of 25, with no history of head injury, brain tumor should be suspected. Ventriculography or encephalography is indicated in every such case.

Blood pressure observations give little information in the study of brain tumor. As a rule the blood pressure tends to be lower than normal except at such times as the intracranial pressure is suddenly raised. Lumbar puncture has little value in the diagnosis of brain tumor, and in cases showing signs of increased intracranial pressure this procedure is positively dangerous. Withdrawal of fluid at lumbar puncture when a brain tumor is causing high intracranial tension may cause herniation of the cerebellar lobes into the foramen magnum, compressing the medulla, often with a rapidly fatal result.

Electroencephalography has received considerable attention from those interested in cerebral disease. We have not used it in brain tumor cases nor would we rely on its findings without supplementary encephalography or ventriculography. In competent hands and with expert interpretation, it is valuable in the study of convulsions.

SUMMARY

The following brief summary is made to give added emphasis to certain points in the paper:

(1) The diagnosis of brain tumor requires answers to the following questions: (a) Is there a tumor? (b) If so, what is the location? (c) What is the type of tumor.

The answer to the third question is being made with increasing frequency before operation but still with far more uncertainty than the answers to the first two questions.

(2) Brain tumor should be suspected in any case showing chronic, progressive cerebral disturbance not adequately explained on some other basis.

(3) About 25% of brain tumors show sudden onset of symptoms similar to that of vascular lesions. Differentiation can be made only by air injection in many cases and, if there is any doubt, a ventriculogram should always be made.

(4) Relatively few tumors can be diagnosed and localized by clinical study and x-ray examination alone. If there is reasonable suspicion of tumor from the clinical studies, ventriculography is always indicated.

(5) In many cases in which the surgeon is reasonably certain of the diagnosis and location of brain tumor, air studies are still indicated for precise localization to permit more direct surgical approach to the tumor.

DISCUSSION

DR. W. GAYLE CRUTCHFIELD, Charlottesville: I am always pleased to hear Dr. Coleman speak, and I am glad to be here this morning although there is very little, if anything, I can add to what he has said.

The mortality from brain tumor operations is between

ten and fifteen per cent, perhaps closer to ten per cent. This could be greatly reduced by earlier hospitalization, as pointed out by Dr. Coleman, also by proceeding with the operation just as quickly as possible after the patient is admitted to the hospital.

The mortality and morbidity of brain tumor cases awaiting operation in hospitals are not a matter of record insofar as I know, but I am reasonably certain that they would reach a substantial figure. Not infrequently, the patient who is being subjected to routine studies and who does not appear to be in immediate danger suddenly develops respiratory paralysis or becomes deeply comatose. If in such cases immediate operation is feasible, it is usually fraught with many difficulties and it seldom meets with much success. To cope with situations such as this, I believe all of us should regard these cases as emergencies and proceed with surgical treatment at the earliest possible moment.

It is very depressing to see patients with irreparable loss of vision due to increased intracranial pressure, particularly since so many of these patients harbor a benign growth. So many of the malignant tumors progress so rapidly that the patient's life is lost, or there is obvious evidence of serious disturbance of function before secondary optic atrophy reaches a serious degree. Loss of vision is usually gradual; therefore, the early, or even reasonably early, recognition of a brain tumor should prevent complete loss of vision.

Drug Raises Mental Age.

Encouraging evidence that children born with mongolism, one of the most serious and least understood forms of mental deficiency, may no longer be doomed to idiocy or imbecility is reported by researchers.

Mongolism takes the largest toll of all abnormal prenatal conditions among the normal population of the United States, according to medical authorities. About three out of every thousand babies born in a general lying-in hospital in this country are affected. Mongoloid babies are especially lively and imitative and have characteristic slanting eyes, flattened skull, and short thumbs and little fingers.

In seven of these children, mental development has been significantly accelerated by doses of glutamic acid, one of the chemical compounds known as amino acids which are building blocks for cells of the body, Drs. Frederic T. Zimmerman and Bessie B. Burgemeister, New York, and Dr. Tracy J. Putnam, Beverly Hills, Calif., write in a current issue of *Archives of Neurology and Psychiatry,* published by the American Medical Association.

Glutamic acid is simple to administer and is generally available to doctors.

"The average mental age of our group of children with mongolism was raised from three years six months to four years two months, or a gain of eight months in the six-month treatment period. This is higher than the rate of growth expected of children having average intelligence (six months in a six-month period) and more than twice the previous rate of mental development of the group."

These seven children are only a small number of a large group of mongoloid patients now receiving glutamic acid, and the doctors do not know yet whether all mongoloid children can be helped by the drug. Pathologic changes in the spinal cord are known to be present in some mongoloid children, and may be the cause of the condition. The amount of potential mental improvement of each child appears to depend on the degree to which the nervous system has been damaged, the doctors say. Experiments have indicated that glutamic acid acts as a stimulant to production of impulses by the nervous system. The learning process takes place through these impulses.

RECENT ADVANCES IN CATARACT SURGERY*

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Roanoke, Virginia.

Cataract surgery has undergone a gradual evolution in the last twenty years with the great increase in popularity of intracapsular extraction. The advantages of removing the intact capsule are unquestionable and should be evaluated not only in terms of improved visual results, but in terms of sparing the patient the psychic trauma and possible economic uselessness of years of increasing darkness while he waits for the cortex to mature sufficiently for an extracapsular operation. The evolution from the extracapsular to the intracapsular method had its real beginning in the work of Col. Henry Smith of the British Indian Service. In 1903, Smith published a report of 6,500 cataract operations in which he had secured very good results by expressing the intact capsule by external pressure alone. Despite the many advantages of the intracapsular method and the excellent results obtained, there are many good ophthalmic surgeons who continue to do the extracapsular operation. Among the advantages of the intracapsular method: 1st: Can be done without waiting for the cortex to mature. 2nd: Complications, such as iritis and iridocyclitis, and glaucoma are less likely to develop. 3rd: Retained cortical material is always a potential danger.

It is possible to remove the lens from the eye without loss of vitreous because the zonular fibers, which attach to and support the lens, are independent of the hyaloid membrane of the vitreous and

Fig. 1. The position of sutures for retracting the lids, and the conjunctival incision.

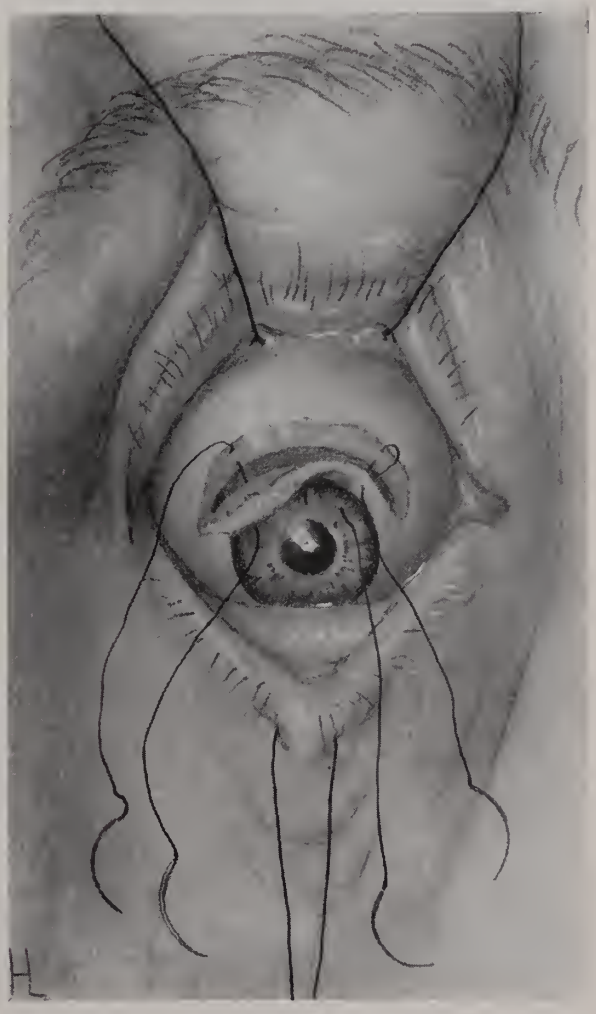

Fig. 2. Sutures placed in cornea.

*Read before the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1948.

can thus be ruptured without a resultant rupture of the hyaloid membrane, and because these zonular fibers do not come into contact with the ciliary processes except in their posterior portions, whereas it is at their capsular insertion that they are ruptured in extracting the lens. These fibers are weakest at the point of their capsular insertion and become more weakened with advancing age. Age also

Fig. 3. Corneo-scleral sutures tied on the corneal surface 10 o'clock and 2 o'clock, and also the conjunctival sutures.

has the effect of thickening the capsule and loosening the adhesion between the capsule of the lens and the hyaloid membrane; hence, the particular indication of intracapsular surgery as the procedure of choice in senile cataracts. In young persons the suspensory fibers are generally so elastic as to make subluxation of the lens impossible.

All methods of lens delivery are based upon one of three principles: (1) external pressure alone, (2) subluxation with forceps plus some degree of external pressure, and (3) suction. Procedures also vary as to whether the lens is delivered head first or by tumbling. The tumbling technic consists of rupturing the lower zonular fibers first and applying pressure in such a line as to cause the lower pole of the lens to present in the wound first.

Pressure delivery is based upon the principle that pressure applied to liquid in a distensible sac is transmitted equally in all directions. Smith's original technic utilized external pressure alone to effect either a head on or a tumbling delivery. The technic which we use in our clinic has been worked out by picking up a little bit here and a little bit there and by constantly endeavoring to utilize the best

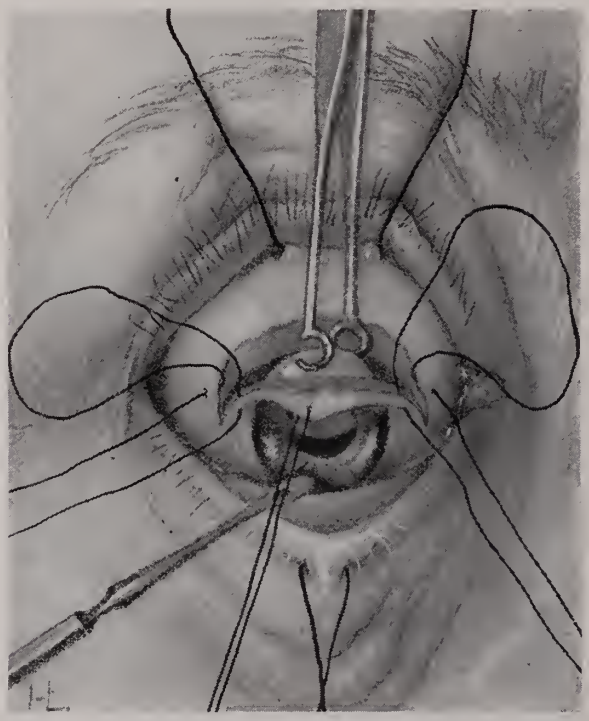

Fig. 4. The method of applying Verhoeff capsule forceps to the equator of the lens just as it presents in the wound. The central suture is used for traction and this gives the operator a direct view of the lens. Capsule forceps are applied accurately and deliberately.

features of any procedure. It is the result, not only of our own experience in operating, but of observations in eye clinics in various parts of this country and abroad and of experience gained in assisting operators, from the various medical centers, at our hospital during the past twenty years in the week of our spring graduate course. Our goal is to remove the cataract in such a way as to cause the least possible disturbance of the functions of the eye and to give the patient useful and serviceable vision. Although we give careful attention to such things as proper diagnosis, a thorough physical examination, and necessary preoperative care, including the elimination of foci of infection, we have

found that more depends upon the operative technic than upon the patient's general condition or the type of cataract involved. We have noted that postoperative complications have been reduced in direct ratio to our improvement in surgical technic. The following procedure is now giving us uniformly good results.

TECHNIC

The patient is admitted to the hospital one day prior to the operation and, after a complete physical examination, is given a mild sedative and a soapsuds enema. As safeguards against infection the lachrymal sacs are irrigated the night before operation with a one to ten thousand solution of penicillin, and after the patient is on the operating table just prior to the operation, one drop of 1 per cent silver nitrate is instilled into the eye and immediately washed out. Occasionally we give 20,000 units of penicillin intramuscularly every three hours for twenty-four hours prior to operation. The decision as to whether an iridectomy will be performed is made before the patient comes to the operating room and depends upon whether or not the pupil dilates readily. We dilate the pupil by the method which Koke has described. If it responds readily, we preserve the round pupil, but if it does not, we perform a full iridectomy. One hour before the operation we give an hyoscine, morphine, cactine tablet hypodermically, and 1½ grains of "nembutal" by mouth. Then the dilatation is begun by instilling two drops of 0.2 per cent scopolamine hydrobromide in the cornea. Thirty minutes later two drops of 0.5 per cent pontocaine hydrochloride are instilled and are followed in two minutes by one drop of 10 per cent "neosynephrine" hydrochloride. After the patient is taken to the operating room, the first instillation of 5 per cent cocaine is made, and two minutes later one drop of "neosynephrine" is placed on the cornea. Approximately fifteen minutes later local anesthesia is completed. If we suspect that the patient may be difficult to handle, a retrobulbar injection of 0.5 c. c. of 1 per cent solution of procaine with epinephrine is made. Akinesia is produced by the van Lint method.

We do not use a lid speculum, but hold the lids open and the eye down with silk sutures. The upper suture is placed under the superior rectus muscle 4 to 6 mm. back of its insertion. Care is taken not to place it too close to the insertion of the tendon as this makes too much traction upon the globe.

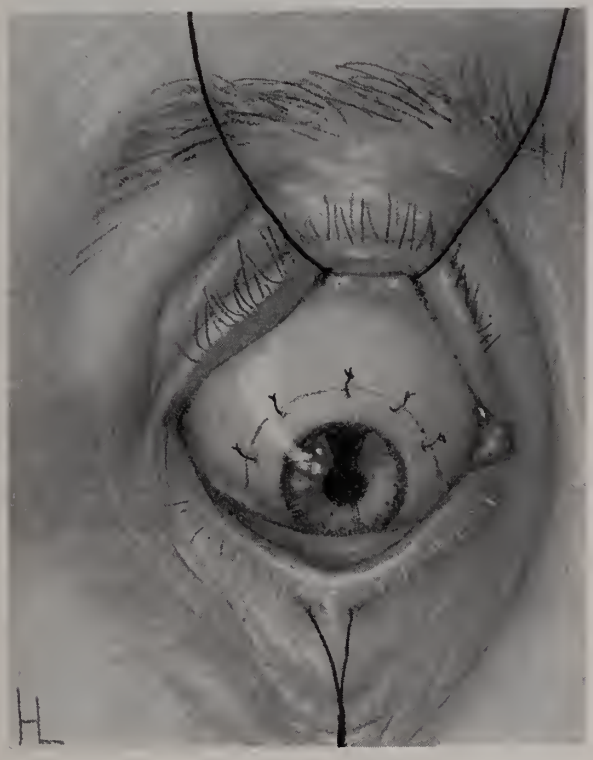

Fig. 5. The method of closing the conjunctival incision. As many sutures can be used as necessary to completely close the wound.

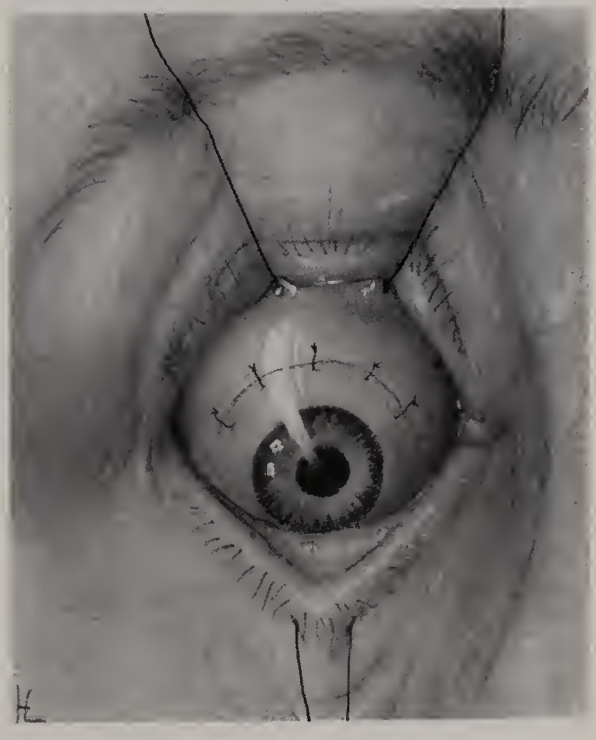

Fig. 6. Wound closed and round pupil.

The lower lid is held down by a suture placed through the skin near the lid margin. The sutures are attached to the drapes by hemostats. With the speculum eliminated in this way the eye may be closed quickly and easily in case the need arises, and there is no traction on the globe so that the possibility of loss of vitreous is minimized.

The next step is the formation of the conjunctival flap which is 3 mm. from the corneal limbus and extends a full 180 degrees concentric with the limbus. The dissection is carried out very carefully and deliberately to avoid buttonholing and includes not only the conjunctiva but episcleral tissues as well. The conjunctiva is grasped with toothless forceps.

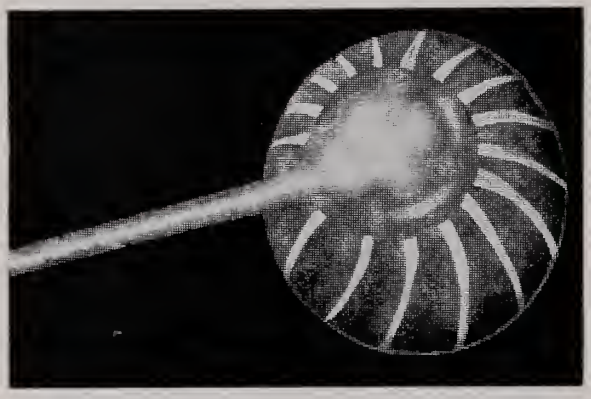

Fig. 7. Suction tip in place on lens capsule, showing lines of stress. (After Thomas, (*Archives of Ophthalmology*, 39, June, 1948.)

All bleeding points are carefully controlled either with epinephrine or by touching the bleeding points with the end of a strabismus hook which has been heated in the flame of an alcohol lamp.

Cornea scleral sutures are placed by using a double-armed number 6-0 silk on atraumatic needles at 10:00 o'clock and 2:00 o'clock. One needle goes through the sclera, conjunctiva, and cornea. The other only goes through the conjunctiva. The sutures are placed before making the keratome incision.

Conjunctival sutures are placed at 10, 12, and 2 o'clock. The two lateral sutures go through both edges of the conjunctiva and are looped out of the way. The central suture does not go through the upper flap of the conjunctiva and is used for traction by the assistant during the iridectomy and the extraction of the lens.

A conjunctival flap of the size used makes an incision with the knife unhandy; so, following the technic described by Cooper. we make a keratome incision. The point of the keratome goes through at the limbus and extends the full width of the cutting edge. We have a specially devised keratome which is 14 mm. in width at its base. The incision is widened with scissors. By repeated small snips the incision is enlarged to the horizontal meridian. The scissors guide the incision and the possibility of injuring the iris is thus eliminated.

If an iridectomy has been decided upon, it is performed at this point. The assistant makes slight traction on the central suture, thus bringing the iris clearly into view. The iris is grasped near the

Fig. 8. Capsule forceps in place on the lens capsule, showing lines of stress. (After Thomas, *Archives of Ophthalmology*, 39, June, 1948.)

pupillary border and the iridectomy is performed. The angles of the coloboma are then carefully inspected and placed in good position with an iris repositor. If at any time blood enters the anterior chamber, it should be washed out immediately with penicillin solution 1-10,000.

The final step in the operation is the extraction of the lens in capsule. We use the head on method. The zonular fibers are ruptured by point pressure at 4 o'clock, 6 o'clock, and 8 o'clock. We also lift the cornea by traction on the central suture and go inside the anterior chamber with a very small iris repositor and make gentle pressure on the iris at 3 o'clock and 9 o'clock. Firm continuous pressure is made on the limbus at 6 o'clock. The pressure is very slow, careful, and deliberate, and is never released. The moment the lens begins to present in the wound it is straddled with Verhoeff capsule forceps and delivered by manipulation and continuous pressure from below.

As soon as the lens is delivered, the corneoscleral sutures are gently tied on the corneal surface. Care is taken to avoid the use of too much pressure. The two lateral conjunctival sutures are tied, and the iris is again inspected. The central conjunctival suture is then placed in the distal flap and tied. Additional sutures can be placed in the conjunctiva if necessary to close the wound completely. Care is taken to cover the incision completely as a safeguard against infection. If for any reason irrigation of the anterior chamber is necessary, it can be carried out under the flap. The sutures are removed on the tenth day.

After the wound is securely closed, the sutures in the lower lid and the superior rectus muscle are removed, and 1 per cent atropine is instilled in the conjunctival sac. We routinely use atropine rather than eserine because we consider keeping the pupil well dilated an additional safeguard against prolapse of the iris when the anterior chamber reforms. When the aqueous comes forward, it does not sweep the iris with it if the pupil is well dilated. We also find that with atropine there is less pain immediately following the operation.

Only the operated eye is bandaged, and if everything goes well, we allow the bandage to remain forty-eight hours before dressing the wound again. If pain occurs within twenty-four hours following the operation and is not relieved by a mild sedative such as empirin compound, the eye is dressed immediately and every twenty-four hours thereafter. The patient is placed in bed at an angle of from thirty to forty-five degrees. This practice has greatly relieved post-operative restlessness. A very distressing symptom immediately following the operation is backache. This can be greatly alleviated by a preoperative enema, a well cushioned operating table, a comfortable bed with an adjustable back rest, and the early and frequent turning of the patient in bed. The operative eye should be protected with a shield for at least twenty days to prevent possible injury. We usually allow the patient out of bed at the end of twenty-four hours, and if he becomes restless, we let him up the first day. We prefer that he be comfortable out of bed rather than uncomfortable in bed. The average period of stay in the hospital is about eight days.

ADVANTAGES

The four principal advances in surgery embodied in this procedure are: the elimination of the lid speculum, the full 180-degree conjunctival flap, the keratome incision, and the combination of conjunctival and corneoscleral sutures. The following are some of the advantages of the technic described.

(1) The eye can be closed quickly if necessary since an eye speculum is not used.

(2) The elimination of the eye speculum minimizes the possibility of the loss of vitreous since there is no pressure on the globe. With this complication lessened, the operator is more at ease. Calmness at all times is conducive to best results.

(3) The incision with the keratome can be made accurately, and there is no reason for injuring the iris, lens, or cornea. The incision heals just as efficiently and promptly when enlarged with scissors as with a knife. The scissors guide the incision, and the iris is not disturbed.

(4) We are always assured of a conjunctival flap of the proper width extending a full length of the incision. A conjunctival flap extending a full length of the incision is impossible with a knife, even in the hands of the most skilled operator.

(5) In our experience astigmatism has been one-fourth to one-half less with this type of incision than with the Graefe knife incision.

(6) Using the central suture for traction permits the iris to be brought clearly into view and, if an iridectomy is decided upon, it can be done carefully and deliberately and the coloboma can be thoroughly inspected.

(7) The use of the traction suture permits the lens to be seen the moment it presents in the wound. The Verhoeff capsule forceps can be placed accurately and deliberately so that the lens is grasped at the equator. According to measurements by Salzmann, the thickest part of the capsule is nearest the equator and the thinnest near the lower pole.

(8) The combination of sutures gives a firmly closed wound which acts as a safeguard against infection and possible prolapse of the iris. It also permits us to get our patients out of bed early, which is the best preventive of such general complications as hypostatic pneumonia.

(9) The preliminary sedation and thorough local anesthesia, in our opinion, give the patient the benefit of the greatest possible safety plus comfort. A good surgeon as a rule dislikes to put a patient to sleep if the operation can be carried out successfully with local anesthesia. Some ophthalmic surgeons are using sodium "pentothal" with good

results, but the procedure requires the assistance of a trained anesthetist and is not practical for the occasional operator who does not have the benefit of such assistance. In addition, we prefer not to face the possibility, however slight, of the patient's being susceptible to the drug.

POSSIBLE COMPLICATIONS

Delayed Closure of Wound—We have not had a single case with our present use of the conjunctival flap.

Hemorrhages—We have had no expulsive hemorrhages in 300 cases. Anterior chamber hemorrhage, in my opinion, is due largely to two factors: (1) a faulty, jagged, irregular incision which delays healing and stimulates many new formed capillaries in the wound which rupture easily, and (2) failure to provide a firm conjunctival flap covering the entire incision. Since we adopted our present technic of keratome incision, conjunctival flap, and sutures, the incidence of hemorrhages has fallen to 3 per cent. Formerly it was as high as 15 per cent. Technic is of greater value in controlling this complication than the general condition of the patient. This observation is in conformity with the findings of Owens and Hughes in 2,086 extractions.

Iritis and Iridocyclitis—In my opinion these are largely due to retained lens material and are rarely seen following intracapsular extractions. If they do occur, we treat them, first, by desensitization to lens protein as recommended by Burky and Henton, and, second, by intravenous use of typhoid H antigen.

Prolapse of Iris—We have not had a case of iris prolapse in 100 patients operated upon since we adopted our present technic of dilating the pupil before and after operation and closing the wound with a combination of sutures. I agree with Stanley Smith and other authors that corneoscleral sutures are an important factor in preventing this complication, but I think that the dilatation of the pupil is of equal importance.

Glaucoma—Secondary glaucoma is closely associated with cases of iridocyclitis, loss of vitreous, and retained cortical material, and rarely occurs with present day technic. If it is not controlled with miotics, we do an iris inclusion operation.

SUMMARY

We use local anesthesia, van Lint akinesia, a keratome incision widened to 180 degrees with scissors, a combination of two corneoscleral sutures, and a 180-degree conjunctival flap closed by additional sutures. We hold the lids open and the eye down with silk sutures, and deliver the lens by the head on method. The patient is allowed out of bed twenty-four hours after operation. With this technic we have achieved a visual acuity of 20/25 or better in 90 per cent of cases: we have reduced hemorrhage to 3 per cent and vitreous loss to 2 per cent. We emphasize that this operation is not designed for speed but for safety and accuracy.

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Discussion

DR. EDWIN W. BURTON, Charlottesville: Dr. Gill was kind enough to send me a copy of his paper for reading before the meeting. I am heartily in accord with many of the points which he has suggested as a means of reducing the dangers and improving the results of cataract surgery.

That the intracapsular method of cataract extraction is the method of choice in most cases is now generally agreed. The post-operative reaction of the eye is decidedly less marked, secondary glaucoma due to retained capsular remnants never occurs, and the necessity for the patient to return for a discission later, requiring additional days of hospitalization, is avoided. The operation is more difficult to perform, but the results, optically, appear to be better. The intracapsular operation is now performed on younger subjects than when the operation first became popular. Although the zonular fibers are more resistant in the young, intracapsular extractions are now successfully performed in many of these cases. I wish that Dr. Gill had gone into more detail regarding the types of cases in which the intracapsular operation is indicated and the types in which it would be difficult or impossible to execute. Immature cataracts, the capsule of which can be firmly and securely grasped with the capsule forceps, are ideally suited to the intracapsular operation. Extraction of cataract after an iridocyclitis, with its thickened capsule, likewise is usually best accomplished by this procedure. On the other hand, the swollen intumescent cataract, with tense capsule, and the hypermature cataract with its slippery capsule makes intracapsular extraction more difficult. An extremely large nucleus, with little cortex likewise prevents a good grasp with the forceps.

I prefer tumbling of the lens to the head first method because it is easier for me to perform with a round pupil, and because by this method the zonular fibers are drawn tense at the point at which the counter pressure is made. If the forceps are held too loosely, they will slip off the capsule and if held too tightly, the capsule will be pinched and torn. If the blades do not close in perfect apposition, or if flaws are present, they cannot perform their function perfectly.

It is surprising how slowly corneal sutures have come into vogue, although they were occasionally employed by various surgeons a number of years before Kalt described his suture in 1894. I personally prefer the pre-placed suture according to the McLean or similar technique. A good bite can be taken in the sclero-cornea, and the wound is closed in perfect apposition. Sclero-conjunctival sutures do not afford protection to the same degree.

Hemorrhage into the anterior chambers appears to occur less frequently when a peripheral iridectomy is done than when a complete iridectomy is done, although the formation of newly formed capillaries in the wound is an important cause, as Dr. Gill states. Also with a round pupillar vitreous loss is less frequent because the intact iris diaphragm tends to hold the vitreous back.

The superior rectus suture, first used by Elschnig in the intracapsular operation, represents a great advance. It affords the operation a control of the globe not possible by any other means.

The use of the knife or keratome must rest with the individual surgeon. The keratome has been used for many years in making cataract sections. I still prefer the Graefe section.

I want to commend Dr. Gill for bringing to our attention these important points in regard to cataract surgery. It would not be correct to say that all of them are recent; whether some of the points are "advances" might also be questioned. In his hands his technique has been satisfactory. I wish that more detailed statistics had been included in his paper so that results and complications according to his technique could be compared with other series of statistics which have been published during the past several years.

DR. R. S. FARIS, Richmond: I want to take issue with the two gentlemen who have just spoken. Each of them said that this paper would not be of interest to general practitioners. I happen to be one of that group, and I want to inform them right now that the paper was tremendously interesting to me. Very often, I think, we general practitioners see the cataracts first; and it may be that if the specialists will instruct us, as these gentlemen have this morning, we shall become better doctors. I wish the paper could have been read before the entire group. Many of us are interested in seeing how this thing is done. I, for one, did not know before; and I want to thank you for presenting it.

DR. GILL, closing the discussion: I wish to thank both the discussants. I felt almost like apologizing for bringing a technical paper of this nature before a group of general men.

As to the particular technique that a surgeon uses, it is largely a matter of personal equation. Our goal is to remove the cataract with the least possible trauma to the structures of the eye and to give the patient useful vision. If that goal is attained the patient can resume his vocation in life if he is in a physical condition to do so.

I am very happy that Dr. Faris had a kind word to say on behalf of the specialists. I would have gone into more detail if I had thought the men in general practice would have been interested. Blindness, from the result of a cataract, is a great economic factor, and I think it is well for the general practitioner to know what it means, and, also, the patient who has the cataract. They should know that it can be removed with the modern technique without a great amount of shock to the patient, and that the hospital stay is about eight days, and the patient does not have to be in bed more than 24 hours after the operation.

I wish again to thank both men for the discussion of the paper, and the program committee for allowing us to bring a technical paper of this nature before the general practitioners.

THE TREATMENT OF MALIGNANT MELANOMA*

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The adjective "malignant" could be omitted from the title of this paper for present usage of the term melanoma pre-supposes a malignant tumor composed of melanin-pigmented cells. A benign pigmented tumor is called a nevus pigmentosus. So malignant are all melanomas, however, that I welcome the opportunity to emphasize it in my title.

The mortality in this condition is always high. Pack[1] in 1947 analyzed 595 cases of melanoma which had been followed over a five year period at the Memorial Hospital in New York City. Only 9.7 per cent survived. This is a terrific mortality, especially when it is considered that these tumors almost always arise on the skin where they can be detected in their incipiency.

At least two-thirds of all patients with melanoma give a history of a pre-existing pigmented mole.[2] Over 50 per cent of this group state that this mole has been traumatized and in well over one-half of these cases a physician is responsible for the trauma. The usual story is that of coagulation of a nevus with an electrosurgical unit or a biopsy through the tumor or excision of a deeply pigmented mole with an insufficient margin. The careless injection of procain into the nevus or the passage of the hypodermic needle through the base of the mole may be sufficient to activate a quiescent pigmented tumor. A case has been reported in which a melanoma appeared shortly after a typhoid injection was given through a pigmented nevus.

The patient or circumstances may be responsible for the trauma under the following conditions:

1. Scratching or picking a mole.
2. Shaving over a nevus situated on the face or neck.
3. Rubbing the tumor with a towel or wash cloth.
4. Friction from constricting clothing as by a collar, hat band, belt or brassiere.

There are many kinds of nevi and the question arises as to which type is most prone to undergo malignant change. As a rule the deeper the pigmentation the greater the hazard. The most dangerous nevi have a shiny anthracite glitter or sheen. The more lightly pigmented are less dangerous but brown and even pink nevi have given rise to melanomas. The presence of hair in the mole makes malignant change less likely but does not rule it out altogether.

In view of all this, what steps should be taken to prevent melanomas from arising in pre-existing pigmented moles? Adair states that one school of thought advocates the excision of all pigmented moles. This is the counsel of perfection, desirable perhaps, but unobtainable. Pack, as the result of a detailed study, has determined that an adult has an average of 20 moles, which would make their excision impracticable. The other extreme is represented by those fatalists who advocate no treatment until the nevus shows evidence of malignant change.

A more rational middle ground would be followed if all deeply pigmented nevi and all moles, which by reason of their location, are subject to trauma, be excised as a prophylactic measure. Certain other nevi should be viewed with suspicion. Adair has pointed out the relative high incidence of malignant change in nevi situated about the feet and ankles. Fortunately nevi are less frequently on the lower than on the upper extremity. Moles which appear in the aged and any nevus which undergoes growth should be removed. Pigmented nevi on the genitalia or between the toes are especially hazardous. Negroes are less prone to melanomas than Caucasians but pigmented moles which occur on non-pigmented areas, as the sole of the foot or palm of the hand, should be excised promptly.

Pack[3] recently called attention to an endocrine factor in the relationship between pigmented tumors and melanomas. Despite definite clinical and microscopic evidence of malignancy in an occasional case in childhood, pigmented tumors which are excised prior to puberty do not recur, whereas similar tumors excised in adolescents just after the age of puberty show a higher recurrence rate than that encountered in older adults. This significant finding should lead to the excision of pigmented tumors which appear hazardous, whether by rea-

*Read before the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1948.

son of their location or aspect, prior to the onset of puberty.

Certain precautions must be observed in the prophylactic excision of these tumors. The nevus must not be traumatized in any manner during the procedure. On theoretical grounds intravenous sodium pentothal should be the anesthetic of choice, but, if the patient demurs, a carefully administered local anesthetic probably carries a minimum of risk. The hypodermic needle must be inserted at a distance and the procain should be injected around and not into the immediate region of the tumor. The nevus must not be grasped by an instrument or manipulated in any manner. A sharp scalpel should be used and the nevus must not be coagulated. A margin of one centimeter should be given the tumor and the full thickness of the skin must be excised. A pathological examination should be made, for any tumor worth removing is worth examining microscopically.

If the nevus should also show deepening pigmentation or recent increased elevation, scaliness, bleeding or itching a much wider margin should be given than the one centimeter described above, for these changes should arouse suspicion of malignant change.

A certain number, fortunately small, will show unmistakable indications of malignancy when first seen. These are usually coal black, fungating or ulcerated tumors. Adjacent areas of stippling or actual daughter tumors about the primary lesion may be seen. If the tumor is growing very rapidly the metastases may not show the intensity of pigmentation which is present in the initial lesion. Enlargement of the regional lymphnodes indicates widespread involvement and a correspondingly poor outlook. An X-ray of the chest should be made to rule out blood borne metastases to the lungs.

If the lungs are uninvolved and the patient shows microscopic or unmistakable clinical evidence of a melanoma being present, a major excision is indicated. The primary tumor must be excised with a minimum of 6 to 10 cm. of adjacent skin. Skin grafting is frequently necessary. The underlying fat and fascia should be removed over an even greater area. If the regional lymphnodes are involved a block dissection of these glands should be made 10 or 14 days later. This interval of time is permitted to elapse in order to allow tumor cells, which may be migrating up the lymphatics at the time of the first operation, to reach the lymphnodes before these nodes are excised. If the lymphnodes are not involved clinically at the time of excision of the melanoma the block dissection of the regional nodes should be deferred until 5 or 6 weeks after the initial operation. Pack has been able to demonstrate metastases in 50 per cent of the lymphnodes which showed no gross evidence of involvement.

In recent years Pack[4] and his associates at the Memorial Hospital have been carrying out in suitable cases an "excision and dissection in continuity" for primary and metastatic melanomas of the skin. This procedure is based on the principles outlined by William S. Halsted in treating carcinoma of the breast. Halsted's operation entailed removal of the primary tumor, the adjacent skin, the lymphatics through which the tumor cells would pass and the lymphnodes into which these lymphatics drained, in one mass. By applying these same principles, Pack is able, in suitably situated melanomas, to remove widely the primary tumor as well as the lymphatics and lymphnodes with a large segment of skin, subcutaneous fat and underlying fascia.

If a melanoma arises on a finger or toe the accepted treatment has been to amputate the digit and follow this by a wide dissection of the axilla or groin. This, of course, does not obviate the danger of implants at any level in the extremity as a result of tumor cells lodging in the lymphatics.

In an effort to overcome this hazard, the Memorial Hospital group[5] have carried out more drastic procedures during the past few years. In cases where the primary lesion is situated too distant from the regional nodes to permit "excision and dissection in continuity", interscapulothoracic (shoulder-girdle) amputations have been performed for melanomas of the upper extremity. In the lower extremity melanomas of the foot with metastases to the femoral and inguinal glands have been treated by disarticulations of the hip-joint with retroperitoneal dissection of the iliac and obturator lymph nodes. Several hemipelvectomies (hind-quarter amputations) have been performed which entailed amputation of the lower extremity together with the innominate bone on the involved side. It may be found that a procedure of this magnitude is not only justified but indicated in what would otherwise be a lethal condition, but sufficient cases have not been followed over an adequate period to permit conclusions at the present time. The author

feels that a procedure as mutilating and disabling as a shoulder-girdle amputation or hip disarticulation should be buttressed by an impressive five year cure rate before its general adoption is justified.

The question naturally arises as what results can be obtained by X-ray therapy in the treatment of melanomas. Many melanomas have been treated by radiation but the results have been uniformly discouraging. It is questionable whether a single five year cure has been obtained by this agent alone. Our only hope of effecting a cure at the present time is early and definitive surgery.

SUMMARY

1. Melanomas carry the highest mortality of any tumor arising upon the surface of the body.

2. Many apparently innocent pigmented tumors have rapidly metastasized following fulguration or other unwise forms of local treatment.

3. All pigmented moles which are subject to injury by reason of location and all deeply pigmented nevi should be carefully excised and examined microscopically.

4. Any evidence of activity on the part of a nevus, whether this be growth, itching, bleeding, ulceration, or increased pigmentation should be followed by an immediate excision with a wide margin. If the pathological report is positive for melanoma a definitive excision with subsequent block dissection of the related lymph nodes should be done.

5. The fate of the patient with an early melanoma rests in the hands of the first physician who sees him. Temporizing with such a condition or ill-advised methods of removal make the death of the patient inevitable.

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DISCUSSION

DR. ROBERT L. PAYNE, JR., Norfolk: It has been a pleasure to hear Dr. Warthen's paper. The subject has been covered in such a comprehensive fashion that very little remains to be said. It seems to me very important, however, that this subject should be brought to our attention from time to time. All too many of these tumors are still being wrongly or inadequately treated. It is the responsibility of the man who first sees a case of melanoma to be sure that proper treatment is carried out.

I should like to re-emphasize the point that Dr. Warthen has made about the prepubertal lesions. It is important to realize that although the local lesion removed in a child may have all the microscopic characteristics of a malignant lesion, it still will prove to be benign in its clinical behavior. For this reason radical surgery such as amputation and the wide lymph node dissections are not indicated. Pack states in a recent editorial on the subject that in over nine hundred cases of melanoma treated at the Memorial Hospital in New York there were no cases occurring prior to puberty in which metastases occurred.

It is important to remove suspicious lesions before puberty. It is important not to do extensive and unnecessary surgery before puberty.

There are two additional points which would indicate an endocrine factor in the development of these tumors. In pregnancy the occurrence of a melanoma has an extremely poor prognosis. Spread is usually very rapid and death occurs early. Patients who develop multiple skin lesions usually have an early death. However, there have been a few reports of marked improvement in this type of case following X-ray therapy to the pituitary gland. Wigby and Metz* report one case with complete retrogression of the skin lesions for as long as a year after treatment and this was as long as the patient had been followed at the time of their report. I wonder if Dr. Warthen can give us any more information about this type of treatment? I should like to make it clear that I agree that X-ray treatment of lesions or metastases is of no value.

Finally, I think a few words should be said about the occasional bizarre behavior of these tumors. While the average case with metastases survives for only a few years, a rare case will live for a remarkable length of time. There are reports in the literature of patients with known metastases who have lived for ten, fifteen or twenty years; one patient actually living for as long as twenty-five years.

We have in our records one patient with a somewhat unusual history. This man, aged fifty-five when first seen, had a melanoma removed from the right scapular region. Three years later a large mass of nodes were removed from the right axilla. Five years after the removal of the original lesion he developed an obstructing lesion of the cecum for which the customary resection

*Wigby & Metz: *Am. J. Roentg.*, 1939. **41**:415.

was done. All of these tumors proved to be identical histologically. Eight years after the removal of the original lesion he developed enlarged glands in the left supraclavicular region and died about one year after this, nine years after the removal of the original melanoma.

The fact that melanoma may spread either by the lymphatics or by the blood stream makes successful treatment difficult. Early involvement of the liver or lungs is common. However, since we cannot prevent the blood borne metastases, we can only strive to prevent lymphatic spread as outlined by Dr. Warthen.

I would like to thank Dr. Warthen for the opportunity of discussing his paper.

DR. WARTHEN, closing the discussion: I wish in turn to thank Dr. Payne for his courtesy in discussing my paper. He asked one question—if I had seen any cases of disseminated melanoma treated by radiation of the pituitary. So far as I know, a suitable case for this has not occurred in Richmond since this method has been suggested.

Women Doctors Faring Well.

Though still a medical minority, U.S. women physicians today occupy an important niche in the profession. Here are a few facts on their status garnered from a nationwide survey published in the June issue of *Medical Economics,* national business magazine for physicians:

Women practitioners net an average annual income of $7,929 (male doctors average $11,036). They devote nine hours a day to their medical practice (one hour less than men), spend an equivalent of 41 days a year in post-graduate study (eight days more than men). They allow 25 days a year for vacations (to men's 16 days). Only 12 per cent are in full specialty practice (as against 31 per cent of men).

New Books

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers under usual library rules:

Advances in surgery—vol. 1, 1949.
Barzilai—Atlas of ovarian tumors.
Bast—The temporal bone and the ear.
Bellak—Dementia praecox.
Brit. Med. Assoc.—The training of a doctor.
Burrow—The neuroses of man.
Cole—Operative surgery.
De Courcy—Pathology and surgery of thyroid tissue.
Fine—Care of the surgical patient.
Golden—For doctors only.
Gould—New Gould medical dictionary.
Gross—Surgical treatment of the abnormalities of the heart and great vessels.
Hermann—Clinical case taking.
Hess and Lundeen—The premature infant. 2nd ed.
Kopetsky—Deafness, tinnitus, and vertigo.
Kramer—Clinical orthoptics. Diagnosis and treatment.
Lawrence—The skin problem facing young men and women.
Meigs and Sturgis—Progress in gynecology.
Meleney—Treatment of surgical infections.
Menninger—Psychiatry in a troubled world.
Moodie—The doctor and the difficult child.
Mumey—Vaccination bicentenary of the birth of Edward Jenner.
Nielsen—Engrammes of psychiatry.
Pack—Cancer of the esophagus and gastric cardia.
Rusk—New hope for the handicapped.
Samuels—Nutrition and hormones.
Scheinker—Neurosurgical pathology.
Scobee—A child's eyes.
Thomson and Negus—Diseases of the nose and throat.
Tobin—Shearer's manual of human dissection.
Thorn—The diagnosis and treatment of adrenal insufficiency.
Trussel—Trichomonas vaginalis and trichomoniasis.
Van Ingen—The N. Y. academy of medicine. Its first hundred years.
Wespi—Early carcinoma of the uterine cervix.

ACUTE PANCREATITIS*

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We would like to present a review of the etiological factors and the present status of treatment in cases of acute hemorrhagic pancreatitis with particular emphasis on several phases which have been mentioned in the literature in the past but which we feel have not received sufficient notice. In addition, twenty new cases will be added to the literature, only three in detail, these being selected to illustrate one particular phase of acute pancreatic disease. The points which we wish to make in particular are: (1) The marked variation in the severity of the disease. In many cases there is only a mild edema with relatively mild symptoms and one is never worried about the outcome of the case. This mildness on one hand can be matched by an extremely catastrophic event which occurs suddenly and is marked by death within twenty-four hours in spite of intensive supportive therapy. Cases illustrating these two extremes will be presented. (2) A second point which we would like to stress is the finding of albuminuria which was present in a large percentage of our twenty cases. We have seen this mentioned in the literature only once.[8] (3) A third point which we wish to emphasize is that high blood amylase and lipase tests are a very great diagnostic help, but are not infallible evidence of acute pancreatitis. The most important factors in making the diagnosis are the history and physical findings. We have one case which is not included in the series but which is being presented showing an elevated blood amylase in a case of intestinal obstruction. In this case, operation was unduly delayed because of this laboratory finding. Had the blood amylase not been available, we feel that this patient would have received earlier and better surgical care. Polowe[12] has reported a case of high intestinal obstruction in which there was increased blood amylase activity.

Various authors have given definite names to the various stages of pancreatitis. Many feel that they are definite stages of the same disease while others feel that they are two or three distinct clinical entities. The most commonly used terminology is to divide these conditions into (1) acute edematous pancreatitis, (2) acute hemorrhagic pancreatitis, (3) acute pancreatic necrosis. It is our opinion that these are different phases of the same disease.

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ETIOLOGY

Lewison[7] in 1940 follows McWharter's classification which was published in 1932. In this classification acute pancreatitis is divided according to possible etiological factors. This is divided into main groups of infectious and non-infectious origin, and there is a third group consisting of a combination of two or more factors. In the non-infectious type, further subdivisions are: mechanical, chemical, traumatic or secondary degenerative changes in the pancreas. Morton's[9] classification, which was also published in 1940, adds to the possible causes mentioned above, alcohol, certain drugs, and circulatory stasis as possible causes for the disease. We feel in reviewing the literature that an occasional case of pancreatitis may well arise from such things as trauma, toxic conditions, and infection. However, certainly none of these can explain the vast majority of cases of acute pancreatitis. Archibald[1] stated in 1940 that "infection is practically always a late complication, the earlier lesions being found sterile." Eliminating the above possible rare causes of pancreatitis, we will discuss in more detail only a few of the more commonly accepted theories as to etiology.

1. Obstruction at the ampulla of Vater by a biliary calculus with reflux of bile into the pancreas was first brought out by Opie in 1901 and is probably the most commonly held theory at the present time. While a large percentage of cases of acute pancreatitis are associated with cholelithiasis or choledocholithiasis, there are certainly a large number in which no stones have been demonstrated either at operation, by x-ray, or at autopsy. Nevertheless, there are some strong points in favor of this

theory. In the first place, experimentally it has been found that if a stone is impacted in the very outlet of the ampulla of Vater and water is injected into the hepatic duct under pressure, a continuous channel between the biliary and pancreatic ducts with reflux of this fluid into the pancreas occurred in about 66% of the cadavers examined.[2] Reinhoff and Pickerell[15] found in examining two hundred and fifty apparently normal pancreases at autopsy that in about three-quarters of the cases the biliary and pancreatic ducts emptied together but that the common channel was shorter than the diameter of the duodenal orifice in all but 18%. Also it has been found that bile, if injected into the pancreatic tissue or back up the pancreatic ducts will cause a picture both grossly and microscopically similar to that seen in acute hemorrhagic pancreatitis.[1] A little added support to this common channel theory has been brought out by Popper[13] who demonstrated that pancreatic enzymes were present in the gallbladder in sixteen out of eighteen cases of acute pancreatic necrosis. Dragstedt[4] in 1931 found that the secretory pressure of the pancreas was greater than the secretory pressure of bile as determined by Mann and Giordano. Therefore, one would expect pancreatic enzymes to go into the biliary tract much more frequently than bile into the pancreatic ducts. Popper's theory is that this pancreatic enzyme is activated either while in the pancreas, in the common ampulla, or in the biliary passages following which there is a reflux of active trypsin into the pancreas.

2. Archibald feels that the cause of acute pancreatitis is frequently as mentioned above, but in addition there are many cases of acute pancreatitis which do occur and in which no common channel can be demonstrated between the biliary and pancreatic ducts or in which no stone is demonstrated in a duct with a common opening into the duodenum. In these cases he postulates the theory that the bile is brought into the pancreas by reflux up the pancreatic duct from the duodenum.

3. In 1936 Rich and Duff[14] came out with a new concept as to the etiology of acute pancreatitis. It is their belief that a large percentage of the cases can be best explained in the following way. There is a metaplasia of the epithelial lining of the small pancreatic ducts. This causes a damming up of pancreatic secretions behind the block with a resulting rupture of the acini. This allows trypsinogen to escape into the parenchyma of the pancreas. This trypsinogen is either already changed to active trypsin or is activated following escape into the tissues. This active trypsin erodes the walls of the blood vessels, causing the hemorrhage so frequently seen. In other cases where there is no hemorrhage, only the pancreatic tissue is damaged and no blood vessels are involved. This would correspond to the cases of acute pancreatic edema that one sees clinically and in which hemorrhage is not a large factor. In support of this theory, they found the same microscopic pathological picture of vascular necrosis in tissues of other parts of the body that were injected with trypsin. This picture was not present when the tissues were injected with bile. These findings are in conflict with those of Archibald[1] mentioned. Rich found metaplasia of the duct epithelieum with acinar dilatation in thirteen of his twenty-four cases of acute pancreatitis.

Signs and Symptoms

The usual signs and symptoms of severe acute pancreatitis are a sudden onset of pain in the mid epigastrium which rapidly becomes more severe and radiates both to the right and left and usually equally to both sides. By the time the patient is generally seen by the doctor, the pain is very severe and may radiate through to the mid upper lumbar region posteriorly. The other usual features are nausea, vomiting, abdominal distention, and frequently signs of shock. A subnormal temperature is not uncommon. Examination reveals marked tenderness throughout the abdomen, particularly in the epigastrium, with involuntary muscle spasm. The above is, of course, the picture of an acute pancreatic necrosis. In cases of pancreatic edema there may be no more symptoms than mild digestive upsets; and, as the pathology varies considerably, so do the symptoms which may be anywhere between these two extremes. There has been a case reported in the literature in which death occurred within twenty minutes of the onset of the first attack.[6]

Diagnosis

In any patient with severe abdominal pain in the epigastrium, the diagnosis of acute pancreatitis must be considered. Of course, it is necessary first to eliminate other conditions which require immediate operation and which will be discussed in the differential diagnosis. When one questions the pa-

tient, he should be sure to ask the location and duration of the pain and severity and to try to ascertain without leading questions whether the pain is present only in the anterior abdomen or whether it does go through to the back. If pancreatitis is suspected, a blood amylase or lipase estimation should be obtained. In chronic pancreatitis the blood amylase or lipase may be elevated for a long period of time while in the acute pancreatic necrosis these values are markedly elevated during the first twenty-four hours and then rapidly return to normal.[3] Sometimes they are relatively normal at first and then go up twelve or eighteen hours after the onset of the disease. Therefore, it has been suggested that these tests be performed every six hours in cases where the diagnosis is in doubt.

Another point which was demonstrated by Langerhans in 1890, but not often stressed, is the purely chemical cause of fat necrosis.[5] This is due to the escape of lipase from the damaged pancreas into the free peritoneal cavity with the neutral fat then being acted upon by the enzyme. The fats are split into glycerol and free fatty acids. The latter may be joined with calcium from the blood to form calcium soaps. This process in turn may cause a lowering of the blood calcium levels. For this reason, blood calcium determinations may be of value in the diagnosis of acute pancreatitis.[5] According to Edmundson, thirty-six of fifty clinical cases of pancreatic necrosis showed a serum calcium value below 9 mgm. per 100 c.c. of blood some time between the second and fifteenth day of the disease, but also Edmundson has studied a number of cases of perforated duodenal ulcer in which there was a moderate lowering of the serum calcium. For this and other reasons, blood calcium determinations, even when lowered, are not of great value in the differential diagnosis of this condition.

Differential Diagnosis

In considering the differential diagnosis, one is immediately struck by the many and varied conditions which may be confused with acute pancreatitis. This is only natural when one realizes the marked variation in symptomatology and severity of the pancreatitis itself. In the mild forms of pancreatitis, the diagnosis is frequently confused with peptic ulcer, gastritis, cholecystitis, and appendicitis. When the symptoms are mild, however, there is usually sufficient time and safety to obtain complete diagnostic workup, including x-ray examinations of organs which might be causing the difficulty. On the other hand, in severe cases of acute pancreatitis the conditions which are most easily confused are conditions which require immediate surgical operation. One of the most easily confused conditions is a perforated peptic ulcer. In both the onset is rather abrupt, although usually more rapid in the perforated ulcer. The pain of acute pancreatitis, while chiefly epigastric as stated, is usually more generalized than in the perforated ulcer where the pain and muscle spasm is usually confined to the epigastrium during the first few hours after perforation.

Acute cholecystitis as well as biliary colic due to impaction of gall stones in the cystic duct or passage of gall stones through the common bile duct is often most difficult to differentiate. In lesions of the biliary tract the pain is, however, most marked in the upper right quadrant with radiation to the right shoulder; whereas, in pancreatitis the symptoms are more in the epigastrium and periumbilical region with radiation to both sides equally and frequently to the midline of the back.

Many other conditions have been mistaken for acute pancreatitis. We have recently had a case of acute intestinal obstruction which was mis-diagnosed acute pancreatitis and for this reason operation was unnecessarily delayed. Because of this, we strongly urge that cases of acute pancreatitis be explored if the diagnosis is in doubt. We personally feel that acute intestinal obstruction is the abdominal disaster most easily confused with acute pancreatic necrosis.

Another condition which should be mentioned in the differential diagnosis is acute coronary thrombosis. From the Massachusetts General Hospital comes the report of a case so mis-diagnosed and reported in clinical pathological conference.[10]

Treatment

The primary treatment of acute pancreatitis is supportive. In the severe cases life can be maintained only with repeated whole blood transfusions. The use of whole blood is the one most important factor in the treatment, but this should certainly be supplemented with other intravenous fluids containing proteins, sugar, and salt. The water balance and blood chlorides should, of course, be main-

tained at the proper level. Severe distention is best combated with continuous gastrointestinal suction.[11] All other treatment is secondary to the above. It is, of course, necessary to give moderately large doses of narcotics for the relief of pain, and it is our feeling that the patients do better if they are not allowed to suffer unduly. Pain may be relieved by paravertebral blocks,[11] but we have had no experience with this. Whether operation is performed or not, all of the above measures should be carried out in the severest cases of pancreatitis. The decision as to whether to explore surgically or to treat the patient conservatively must be left entirely to clinical judgment, which is based on how sure is the diagnosis. It is our feeling that the patients are apt to do better if they are not operated upon, but to take any chance on allowing a perforated ulcer to remain open or not to relieve an acute intestinal obstruction is not warranted.

When operation is performed and acute pancreatitis found, it is generally our custom to place a drain into the lesser peritoneal cavity or into any pancreatic necrosis or abscess which might be present. If there are stones in the gallbladder, drainage of the gallbladder with removal of the stones is much simpler and probably safer in these severely ill patients than to perform a cholecystostomy at this time. If no stones are present, the question of biliary drainage is debatable. Dragstedt[4] believes biliary pressure should be reduced by cholecystectomy or choledochostomy. It is our feeling that this should be done if there is evidence of increased pressure, but is not wise if the gallbladder is not distended and no stones are felt in the biliary tract. Penicillin is generally given, but whether it is of any value in the treatment of this condition is open to question. Our feeling is that it should be given primarily to control any secondary infection which might arise. There is no pathological or physiological basis for believing that the penicillin *per se* is of any benefit in the treatment of pancreatitis itself.

After recovery from the attack of pancreatitis, every patient, we feel, should have x-rays of the gallbladder unless the exact condition prevailing within the gallbladder was determined at operation. If gall stones are present, an elective cholecystectomy should be performed a few months after the illness.

Summary of Cases

We have recently reviewed twenty cases of acute pancreatitis seen at the Jefferson Hospital. Of these twenty, the diagnosis was made at operation in seventeen. In two of the remaining three, the diagnosis was made at autopsy. In the twentieth case, no operation was performed and the patient recovered completely. We feel that this case, however, can be safely included in the series as the history and physical findings were rather typical of pancreatitis, and there was marked elevation of the blood amylase during the early stages of the disease with a later fall to normal. The sex instance is even, there being ten cases of each sex. In this series it was found that the disease is primarily one of young adult life, the ages varying from twenty-three to seventy, with fourteen out of the twenty being under the age of forty-five. In all but four cases, a history of chronic digestive complaints of some type was obtainable.

The duration of symptoms prior to operation varied from seven hours to six days. Both the white blood count and temperature were poor diagnostic signs. White blood counts on admission were obtained between the levels of 5,600 and 39,200. Mild leucocytosis was the usual finding. The degree of fever was even poorer in helping us to make the diagnosis or evaluate the prognosis. In six cases, admission temperature was subnormal. In two cases there was no urinalysis as the patients died before the admission urine was obtained. In sixteen out of the remaining eighteen case, albumin was present in the urine, being anywhere from a slight trace to four plus. This instance of albuminuria has been commented upon by Metheny, *et al.*,[8] but has not been generally stressed in the literature. In nine cases the gallbladder was definitely abnormal, whereas in four cases it was stated that the gallbladder was essentially negative at operation. In remaining cases, unreliable data was available.

The mortality rate is 35%, as seven out of the twenty died. Only three cases were not operated upon, and two of these died. However, the two who did die were not operated upon primarily because their condition was so poor at the time of admission that it was felt they could not withstand any type of operative procedure. Aside from this, to make any comparison of mortality rates in a series as small as this would be completely foolish.

CASE REPORTS

1. The following case is presented as an example of a severe fulminating type of the disease: Mrs. D. R., age 70, was admitted to the Jefferson Hospital, September 21, 1947, with the complaint of lower abdominal pain, nausea, and vomiting. About one month prior to admission she had had a similar attack which was much milder and consisted of abdominal pain, nausea, vomiting, distention, and constipation. She was hospitalized for ten days elsewhere and gastrointestinal and gallbladder x-rays were essentially normal, while barium enema revealed only a diverticulum of the sigmoid. She slowly improved from this illness until two days before admission when the pain became much more severe, confined primarily to the lower abdomen on both sides and was associated with nausea and constipation. Examination on admission showed tenderness throughout the lower abdomen, most marked in the left lower quadrant. There was slight distention. There was no muscle spasm or rigidity and no masses could be felt. Temperature was 98°. General examination otherwise essentially negative. Patient did not appear acutely ill at this time nor during the night.

About twelve hours after admission the patient went into shock. The blood pressure could not be obtained, and the pulse was almost imperceptible within a matter of thirty minutes. Examination of the abdomen at this time revealed that it was more distended, very tense, and tender throughout. Her temperature was 100° by mouth. White count was 23,400. In spite of 1,000 c.c. of whole blood, 1,000 c.c. of plasma and saline solution, the patient's condition rapidly became more critical, and she expired about twelve hours after the sudden onset of her very acute symptoms. Postmortem examination revealed fat necrosis throughout the peritoneal cavity and a hemorrhagic type of necrosis involving the entire pancreas.

2. This case is presented to illustrate a milder phase of the disease and also one which was treated without operation: Mrs. N. D., age 25, was admitted to the Jefferson Hospital, October 14, 1947, with the complaint of abdominal pain. Present illness revealed that the patient had been awakened from her sleep with epigastric pain. The pain remained deep in her epigastrium and did not radiate and had been constant in character since it began. It was not relieved or made worse by the ingestion of food. There was nausea but no vomiting. Past history revealed no previous trouble with the gastrointestinal tract.

Physical examination: Patient was seen to be an obese young woman in moderate distress. She complained of epigastric pain. There was marked tenderness in the epigastrium and some voluntary muscle spasm, but no true involuntary spasm. No masses could be felt. Temperature on admission was 98.2° and white blood count was 5,600. The patient's general condition gradually became more severe during the next two days. White blood count two days after admission was elevated to 20,550 and the temperature had risen to 101.6°. The pain became more generalized throughout the upper abdomen, and there was some radiation to the back. Blood amylase was, therefore, obtained, and this was 87 mgm. %.* The following day with no treatment other than supportive therapy and penicillin 50,000 units q. 3 h., the white blood count had fallen to 12,000, and the patient's abdomen was not quite as tender as it had been. Blood amylase was 51 mgm. %. Two days later this had fallen to 14 mgm. %. Mild supportive therapy was continued. This included a transfusion as well as daily intravenous glucose. Her temperature remained elevated from 100° to 103° constantly for six days, following which there was a rapid return to normal during a period of forty-eight hours; and it remained normal during the remainder of her hospitalization.

3. This case is presented to show an example of pancreatitis which apparently was produced by trauma: Mr. R. S., 37 years old, was well until he was struck in his abdomen by a fist blow on July 8, 1947. He began having immediate cramplike colicky, abdominal pain associated with nausea and vomiting. This was more severe the following day and then subsided. On July 10, 1947, he began to notice abdominal distention which was progressive up until his admission to the hospital on July 11, 1947. The discomfort in his abdomen had become more severe so that morphine had been necessary for the relief of pain the night before admission. Examination revealed an obese male in acute distress. The abdomen was markedly dis-

*Method of serum amylase determination used at Jefferson Hospital is the one proposed by Bray in his "Synopsis of Clinical Laboratory Methods." Normal values do not exceed 50. Values by the Somogyi method are roughly four times the values obtained by this method.

tended and tympanitic. There was epigastric tenderness without any real muscle spasm. No peristaltic sounds could be heard on auscultation. Exploration was immediately performed, and it was found that there was severe fat necrosis. The pancreas was necrotic for an extensive region. Patient's condition was poor before operation, and he died twenty-four hours after operation. Autopsy revealed hemorrhage and necrosis throughout 90% of the pancreas with extensive fat necrosis of tissues within the peritoneal cavity. In view of the very definite history of trauma and the onset of pain at that time, it was felt that this is one of the cases which might fairly be classified as having trauma as an etiological agent.

4. A 30 year old woman entered the hospital on November 1, 1947, with the chief complaint of abdominal pain. For twelve days before her admission she had had severe recurrent sharp stabbing pains in her entire upper abdomen radiating straight through to both sides of the back. Pain also radiated into her lower back. Since the onset of her pain, she had had frequent bouts of nausea and occasional vomiting. The day before admission she vomited five times profusely. Past history is relevant in that she had an appendectomy and bilateral salpingectomy in July, 1947. Diagnosis at this time was pyosalpinx.

Physical examination on admission revealed a well developed and well nourished young woman in considerable distress, moaning and retching and complaining of stabbing pain in the upper abdomen and back. Examination of the abdomen revealed a low-grade tenderness in the upper abdomen; no masses, no definite spasm was noted. Otherwise the physical examination was essentially negative.

From the time of her admission on November 1 until early in the morning of the 4th, she did not actually vomit at all and received only mild sedation for her discomfort. On the morning of November 4, she began vomiting and had severe abdominal pain. Nausea and vomiting continued all through that day, and the abdominal pain was quite severe in spite of fairly large doses of narcotics. The abdomen at this time was essentially soft, and there were no definite high-pitched gurgling sounds. The morning of the 5th a blood amylase was obtained which was 71 mgm. %. She continued to vomit everything taken by mouth this day. Fluid requirements were maintained intravenously. Around midnight that night she suddenly went into shock, and large amounts of plasma and glucose were necessary to resuscitate her. She then began to vomit fecal vomitus. As soon as the patient was gotten into a little better shape, she was carried to the operating room and an emergency laparotomy performed. She was found to have enormously distended loops of bowel, but there was no evidence of gangrene. Adhesions were released and the abdomen closed as rapidly as possible. Her post-operative course was stormy, but at the time of her discharge on November 22, 1947, she was almost fully recuperated.

SUMMARY

1. A brief review of the etiology, diagnosis and treatment of acute pancreatitis has been given.

2. A summary of twenty new cases is presented with case reports of three of these.

3. Attention is called to the marked variation in severity of symptoms and also to the high incidence of albuminuria.

4. Elevated serum amylase may occur in high intestinal obstruction.

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DISCUSSION

DR. R. P. BELL, Staunton: Mr. President and Gentlemen: Dr. Trout's paper brings up a subject about which there has been quite a lot of new study and new thought,

and, of course, such papers are always timely and valuable; that is, when they are properly prepared and properly presented, as is his.

The pancreas, as we all know, is an organ about which all too little is known, although we must admit that a great deal has been found out concerning it during the last five or six decades. We have known, of course, for a long time about the digestive ferments that are originated in the pancreas—amylopsin, steapsin, trypsin, and rennin. The discovery of insulin,—that spectacular occurrence—brought out the fact that this internal secretion of the islands of Langerhans has absolute control over sugar metabolism. We have found out in recent years, from a surgical standpoint, that the whole pancreatic organ can be removed and the patient live by administration of the enzymes and insulin. The monumental work of Whipple, Mulholland and others along this line has been mentioned. But we are brought face to face frequently, to our chagrin, with the fact that of the inflammations of the pancreas we are still woefully ignorant.

I think the first operations for pancreatitis were done back as far as 1883. From that time up to about 1930 acute pancreatitis was thought to be a very virulent, rapidly fatal disease never diagnosed until operation was done for something else. Along about 1930 we began to have a new thought on the subject of pancreatitis and began to realize that it is not primarily an infection but is a chemical change brought on by the stoppage of the ducts and rupture of the capsule, with a pouring out of the enzymes into the abdomen. Therefore, the point was brought out, why operate when we can make the diagnosis? But the sad part is that we often cannot make it. Take the series of cases Dr. Trout has presented. Out of twenty cases, seventeen were diagnosed at operation and two, I believe, at autopsy. I have seen several other series presented in which about the same percentage of preoperative diagnosis was made.

As to the causes, our thought is pretty well crystallized that there is a damming up of the pancreatic fluids, either by a stone or other obstruction, causing bile to dam up in the pancreatic ducts, causing rupture of the acini and allowing trypsinogen to escape into the parenchyma of the pancreas.

The symptoms, of course, we know pretty well. This condition is frequently confused with other things—appendicitis, peptic ulcer, gall bladder disease. Sometimes coronary disease may confuse us.

As to treatment, I think our thought is pretty well crystallized that we should not operate on these patients. The difficulty is to know when we have a pancreatitis. Since 1930, when most of the cases died, the statistics have been very much better.

What are we going to do about it? Is this a surgical or is it a medical problem? I think it is a medical problem, but I notice that the surgeons are writing all the papers. When a medical man gets a patient with high abdominal pain, tenderness, and so forth, he usually calls in a surgeon, and I think it is right and proper he should do so. I think the medical men and the surgeons should work together on these cases in order to reach the proper diagnosis.

The history, of course, is the important thing. The amylase test is a great help, and I think all hospitals should be equipped to do it. Every hospital ought to have a laboratory technician trained to do these tests and do them accurately, and I think there are a great many hospitals that are not so fixed. The points to be stressed are careful examination, the use of this test, and, when in doubt, operate. With the anesthetics that we have these days a simple opening of the abdominal cavity is scarcely a hardship on any patient; and it is very much better to operate, because there may be ruptured peptic ulcer, than to wait too long watching the patient because you think it is acute pancreatitis.

DR. J. MORRISON HUTCHESON, Richmond: I wish to commend Dr. Trout for his excellent paper on this important subject. Acute pancreatitis is probably far more common than we realize. Dr. Trout has touched upon the variableness of the picture. It seems likely that while the more severe cases manifest symptoms and signs that permit recognition, there are milder cases that escape detection because the symptoms are slight or because we fail to think of this condition.

The diagnosis of acute pancreatitis is largely a clinical one. The presence of increased serum amylase is undoubtedly important but the elevation is transient and may easily be missed, and its absence should not argue too strongly against pancreatitis. Serum amylase may also be increased in other conditions. One of the highest levels I have seen occurred in a patient with a ruptured gall bladder.

DR. TROUT, closing the discussion: I should like to thank Dr. Bell and Dr. Hutcheson for their remarks.

With reference to Dr. Bell's remark as to whether acute pancreatitis should be treated by a medical man or by a surgeon, I certainly agree with him that there should be close cooperation between the two. While it is a medical condition it seems hard to believe that a medical man can treat the great majority of these patients alone, because so often acute abdominal catastrophe which requires immediate surgical intervention must be considered; and I think the surgeon should be called in.

I would like to stress particularly Dr. Hutcheson's remarks. I agree with him that the presence of increased serum amylase is of great help, but its absence does not rule out pancreatic disease. The elevation is extremely transitory. In some cases it may rise in the first twenty-four hours and then fall to normal. In chronic pancreatitis it may be slightly elevated over a long period of time. It has therefore been suggested that in these cases the blood-amylase test be repeated every six hours for the first two or three days. If this is done, an elevated serum amylase may be found on a later examination which would be missed if only one determination were made.

AN UNUSUAL CASE OF HYDROCEPHALUS WITH SOME COMMENTS ON DELIVERY

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A 34-year old multipara was found to have a breech presentation about six weeks before the expected date of delivery. An X-ray taken to confirm the clinical impression revealed a huge hydrocephalus in the frank breech position. The hydrocephalus had not been suspected. As term drew near the size of the abdomen increased markedly especially in the upper portion. The enlarged fetal head finally could be palpated most easily. The patient went into spontaneous labor at the 41st week. For a long time the uterine contractions were irregular and not very strong. After 18 hours the cervix had dilated only 4 cm. At this point the membranes were ruptured in the hope that the release of intrauterine pressure would improve the quality of the labor. Following this the strength of the uterine contractions was indeed increased and in several hours the cervix was completely dilated.

Study of this case beforehand had convinced me that the head was too large to engage in the pelvis. And so it was. The buttocks delivered spontaneously, the legs were brought down and about two-thirds of the body was easily delivered. Here the delivery came to a standstill. Further progress was impossible because the head was arrested at the pelvic inlet; it was up in the abdominal cavity out of reach for perforation through the vagina. Anticipating this difficulty, I had come to the delivery room armed with a long metal cannula which I planned to insert up the spinal canal after cutting down on the most accessible portion of the vertebral column. But it so happened that the fetus had a spina bifida along its entire lumbar spine. The cannula was therefore inserted into the spinal canal through this ready-made opening and easily passed up into the cranial cavity (figure 1). Cerebrospinal fluid spurted out through the cannula and in a few minutes the head was so reduced in size it entered the pelvis. The remainder of the body then delivered and the head itself was easily brought forth by grasping the infant by its ankles and swinging its body back on the mother's abdomen. Even in the collapsed state the head circumference (occipito-frontal) was 45 cm., or 10 cm. more than that of a normal newborn. The baby weighed 8 lbs. 2 oz. (3685 gm.). The fetal heart was heard when the mother was brought to the delivery room, but the infant was stillborn. Death was attributed to the delay in the delivery of the head. Due to an oversight no autopsy was obtained.

Delivery of the hydrocephalic infant presenting by the breech is usually handled without difficulty by perforating the after-coming head following delivery of the body. In the case just reported the problem was more difficult in that the head was too large to engage in the pelvis. The head remained in

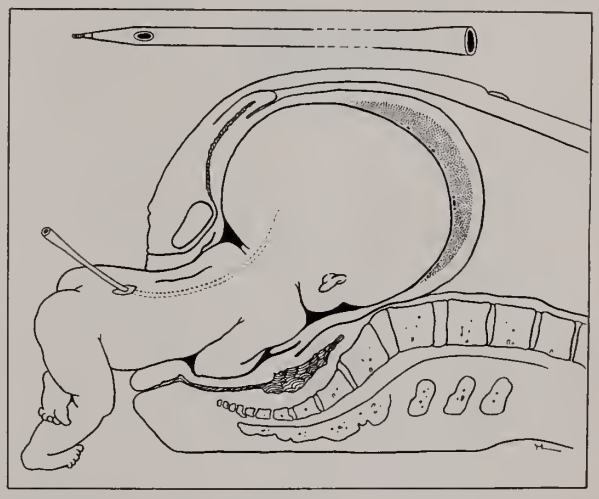

Fig. 1

the abdominal cavity out of reach through the vagina. This impasse was overcome by passing a cannula up the spinal canal to the cranial cavity. Mother Nature made the task easier by providing a spina bifida so that it was not necessary to cut down on the vertebral column. To enter the spinal canal, an incision is made in the midline over the spinous processes. The skin edges are retracted by Allis forceps, the laminae are incised with the scalpel and the fragments removed. A semi-rigid waxed silk urethral catheter* is then passed through the defect in the vertebral arches on up to the cranial cavity. If such a catheter is not available

*Catheters are ideal for this procedure in that they are always to hand. In my own case I happened to have a long metal cannula which was almost straight.

one can use an ordinary soft rubber catheter into which has been inserted a length of stiff wire. Insert the wire into the catheter just short of the eye, for if it protrudes through the eye it may get snagged in the spinal canal. Bend the far end of the wire to a right angle or more so that it does not advance further into the catheter.

Where the after-coming head is engaged in the pelvis and the entire body has been delivered, the method of Gustafson is very satisfactory (figure 2).

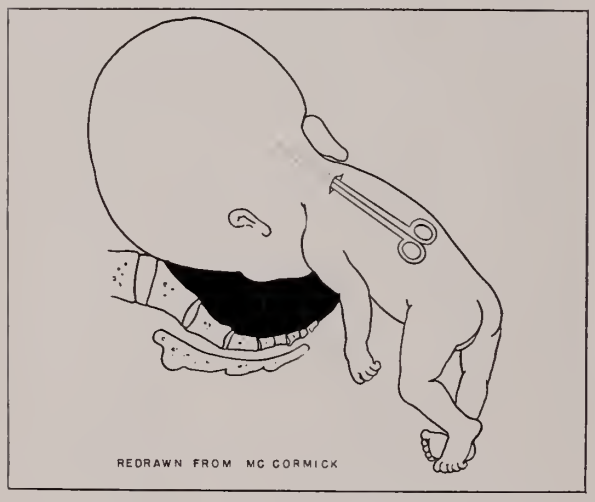

Fig. 2

A transverse incision is made in the skin at the base of the neck and then the scissors or the perforator are tunneled beneath the skin to the base of the occiput, thus protecting the maternal soft parts from injury.

In breech hydrocephalus the practitioner has at least a purchase hold on the fetus through its body, which, being smaller than the head, will be expelled in whole or in part. When the hydrocephalus presents by the vertex the problem is obviously different. It constitutes one of the most dramatic examples of cephalopelvic disproportion. The use of cesarean section for this type of case has been roundly and repeatedly condemned. Yet the treatments which have been recommended for so many years, such as craniotomy, perforation and version, etc., are more dangerous than cesarean section. Therefore, some practitioners turn to cesarean section in order to insure the survival of the mother.

All of the classic technics for delivery of the vertex hydrocephalus insist on complete dilation of the cervix as a preliminary. However, full dilatation occurs slowly in hydrocephalus, the labor often being very inefficient and prolonged. The length of labor required for full dilatation can seriously overstretch an already markedly distended lower uterine segment. Version and extraction run the risk of rupture of the uterus because of the thinning out of the lower segment. Craniotomy runs the risk of deep laceration of the birth canal by fragments of the crushed skull.

O'Connor and Gorman[1] solved this dilemma of treatment in a most simple manner. Early in labor when the cervix was only a few centimeters dilated they inserted a spinal needle into the head of the fetus and drew off enough fluid to reduce the size of the head. The results were excellent. The patient was a primipara with a vertex hydrocephalus. The cervix was 3 cm. dilated. These authors ruptured the membranes and inserted a No. 18 spinal puncture needle into the head (figure 3). Cere-

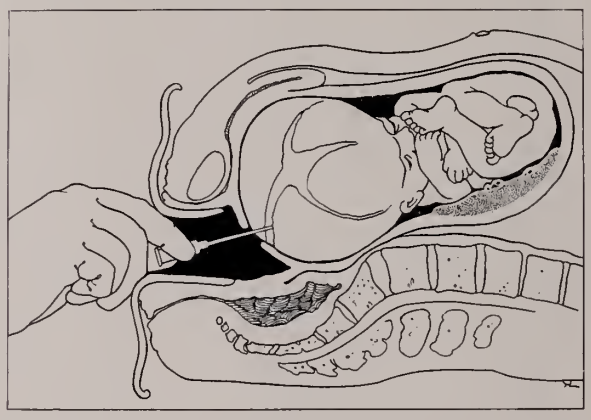

Fig. 3

brospinal fluid spurted out and whenever the stream slowed it was accelerated by pressure on the head through the abdomen. About 1400 cc. of fluid were removed. Adequate uterine contractions set in almost at once and in just one hour the infant was delivered spontaneously. It died two hours after birth.

O'Connor and Gorman called their procedure intraventricular tap and drainage. It has many advantages. One does not wait for complete dilatation of the cervix. All that is required is enough dilatation to permit insertion of the needle into the fetal head. Prolonged labor is avoided. The dangers of a long labor are not added to the dangers of an already over-stretched lower uterine segment. Intraventricular tap and drainage may be done by the general practitioner. Special skill and training are

not required as in craniotomy, perforation and version, etc. No anesthesia is needed for intraventricular tap and drainage. After the head has been drained of excess fluid it engages in the pelvis and can be delivered in due course either spontaneously or by low forceps.

Intraventricular tap and drainage of the hydrocephalic head is a safe, simple means of obtaining easy delivery through the vagina. Perforation of the vertex is an easy matter. The skull bones are thin and the fontanels are widely open. The distention of the ventricles of the brain is so great that the brain tissue over the vertex is compressed into a thin layer. The essential point about intraventricular tap and drainage is that the spinal needle is inserted into the fetal head in early labor as soon as there is enough dilatation to insert a spinal needle through the cervical canal. *One does not wait for complete dilatation of the cervix.* Here is the overwhelming superiority of the method over the classic technics. Intraventricular tap and drainage avoid the risks of prolonged labor, rupture of the uterus, pressure necrosis, fistulas, postpartum hemorrhage from atony of an over-distended uterus or lacerations of the birth canal.

There may be a rare case of vertex hydrocephalus where the cervix is difficult to expose or the head cannot be brought within reach of the needle through the vagina. Here intraventricular tap and drainage may be done *through the abdominal wall,* after the method of Walsh,[2] of Liverpool. The bladder is emptied by catheter. The skin of the abdominal wall and the peritoneum is anesthetized with 1 per cent novocaine in the midline over the head (usually this site is midway between the symphysis and umbilicus). A No. 16 spinal needle is then passed through the abdominal wall, uterus and head into the ventricles. Very little effort is needed. The procedure is quite painless to the mother and there is no need to try to pass the needle through a fontanelle or suture. The needle passes readily through the deficiently ossified skull. A 20- or 50-cc. syringe is then fitted to the needle and the cerebrospinal fluid aspirated after which the needle is withdrawn.

The four simple technics reviewed in this paper make possible safe, simple, easy delivery through the vagina for the hydrocephalic case whether it presents by the breech or vertex, whether the body is completely or only partially delivered, whether the head is high or low. Plass[3] pointed out recently that these procedures have greatly simplified the management of hydrocephalic labors although they are rarely mentioned in standard textbooks. "They are so much simpler than the classic technics that their general adoption would seem indicated." It should be stated that the most recent editions of McCormick, De Lee-Greenhill, and Mengert mention or describe some or all of these simplified technics. Generally speaking, vaginal delivery is 10 times safer than cesarean section. Therefore, the vaginal route is to be preferred for the delivery of hydrocephalus now that the safety of this route is assured. There is no need to have recourse to the dangerous and complicated technics of craniotomy, perforation and version, etc. By the same token, "cesarean section with its attendant maternal risk, performed for a child who is virtually biologic waste, is a completely irrational method of therapy for hydrocephalus" (Mengert[4]).

Are there any religious objections to the technics which have been recommended in this paper? It is well to consider this aspect of the subject because there are millions of Catholics, hundreds of Catholic hospitals, and thousands of Catholic doctors in this country. The Catholic Church forbids craniotomy as long as the infant is alive. This is because craniotomy involves destruction and evacuation of the cerebral contents. Any cranial operation is forbidden which has for its purpose the direct killing of the fetus.[5] However, tapping the fetal head with a trocar and cannula has been approved by Catholic moralists, says McCormick.[6] "The procedure is not necessarily synonymous with fetal death, and cannot be described as an attack on the fetus any more than a cerebral operation on an adult is an attack on him. It is done for the sake of both the child and the mother; to save the mother from death from a ruptured uterus, to give the child the only thin chance of life and Baptism, which is possible for him aside from having recourse to cesarean section . . . Although cesarean section in handling a case of dystocic hydrocephalus is allowed, ecclesiastical opinion does not require it peremptorily." And Walsh,[2] whose procedure has been described above, says, "I am advised on the highest ecclesiastical authority that there is no objection on religious grounds (to tapping the hydrocephalic head with a spinal needle). The aim of the treatment is to reduce the size of the head to

make spontaneous labor possible and to prevent obstructed labor."

It must be remembered that tapping or mere perforation of the greatly dilated and thinned out brain does not as a rule cause fetal death.

A Catholic point of view attributed to Moore is quoted by O'Connor and Gorman,[1] "The operation of craniotomy involves two stages: (a) perforation of the skull; (b) complete destruction of the cerebral contents . . . If the second stage of the operation is omitted and the physician attempts to effect delivery with as little loss of cerebral substance as possible and does all he can to save the life of the child he is no longer making a direct attempt to kill the child but in certain rare instances in which delivery may be otherwise impossible, he will be doing all he possibly can do to save the lives both of the child and of the mother."

In the case of breech hydrocephalus, the body will be born first and this will allow the performance of baptism. The infant will almost inevitably succumb to the delay in delivery of the greatly enlarged head. One then proceeds to reduce the size of the head by tapping and draining off the excess fluid. This can be done either by passing a scissors up under the skin of the neck to the base of the occiput or by passing a catheter up the spinal canal, depending upon the accessibility of the head. Churning or stirring up the cerebral contents with the scissors or other instrument must be strictly avoided, for in case there is still a spark of life in the infant it would be destroyed. This action would violate Catholic moral concepts.

O'Connor and Gorman[1] approached the problem of delivery of the vertex hydrocephalus from a Catholic point of view. They were concerned with delivering the infant alive by some means other than cesarean section. In the method of intraventricular tap and drainage they found a means which not only met their theological requirements but which is overwhelmingly superior to the classic technics as regards ease, safety and rationality. The need for both craniotomy and cesarean section in the treatment of hydrocephalus no longer exists. Cesarean section can be justified only if there is an associated complication which requires the operation *per se* such as placenta previa.

SUMMARY

1. A case of breech hydrocephalus is reported where the head was too large to engage in the pelvis and only a portion of the infant's body could be delivered. Delivery was effected by draining the head through the spinal canal.

2. Consideration is given to the management of hydrocephalic births in general. The older technics are evaluated in the light of recent advances and found wanting.

3. Four simple, improved technics are recommended which permit safe, easy delivery of the hydrocephalus through the vagina regardless of presentation.

4. These simplified technics are shown to be permissible with Catholic patients because they do not directly attack the life of the fetus. They can therefore be used universally whatever the religious affiliation of the patient, the physician or the hospital. This makes it possible to standardize the management of the hydrocephalic labor case.

5. It is urged that craniotomy, perforation and version, and other classic technics for the delivery of hydrocephalus be abandoned because they require full dilatation of the cervix, prolonged labor, and dangerous complicated manipulations in an overdistended uterus.

6. It is urged that cesarean section be abandoned because with these simplified technics there is no longer any justification for subjecting a woman to abdominal operation for the sake of a monster.

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2914 West Avenue.

A METHOD OF TREATMENT OF MASSIVE GASTRO-INTESTINAL HEMORRHAGE WHICH APPEARS UNCONTROLLABLE*

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One of the difficult types of gastric hemorrhage to handle is that in a patient more than 50 years of age, where a sclerotic vessel along the wall of the stomach or in an adjacent structure has become eroded by an ulcer. The vessel at autopsy is seen to be wide open and surrounded with the dense scar tissue of the ulcer. Probably no procedure we may follow would completely solve the surgeon's problem in all these cases. Two case histories are given, illustrating how two such cases were handled successfully.

W. H., a 52 year old white veteran, was admitted February 28, 1948, for gall bladder disease. He had an attack of abdominal pain six months previously. Roentograms made revealed what was thought to be a duodenal ulcer.

His present attack of pain began ten days prior to admission. He was nauseated at times, but did not vomit. Food did not relieve the pain. He also had pain in the right kidney region and complained of hematuria. The ward surgeon proceeded to work him up from the genito-urinary angle. Early in the morning of March 10, 1948, he became nauseated and started for the bathroom when he "blacked out." The ward nurse found him on his hands and knees in a pool of bright red and clotted blood which he had vomited. When he was placed in bed, his blood pressure was found to be 80/40, when it was ordinarily 130/90. His hemoglobin dropped from 14.5 on admission to 8.5 that morning. He was given plasma while a donor was obtained. He was given nothing by mouth for twelve hours, then was put on a Muelengracht diet. He was given a mixture of milk with alkalies hourly. He was also given transfusions on the two succeeding days. Stools were tarry, but there was no more evidence of copious hemorrhage until March 13, 1948.

In this second episode of profuse hemorrhage, his hemoglobin dropped to four grams, with 1,500,000 red cells, and his pulse, which could not always be counted, rose to 140. He was given 2,500 c.c. of blood during the next 24 hours and a surgical consultation was requested.

Since the patient was in extremely poor physical condition for emergency surgery, the following procedure was adopted to make a diagnosis and to get the patient in a better physical condition for any indicated surgery: (1) Bed rest; (2) Constant nursing care; (3) Gastric evacuation continuously, using a #18 French gastro-duodenal tube; (4) Frequent lavage of stomach by encouraging patient to drink ice water; (5) Reduction of gastric acidity by irrigating the stomach through the gastro-duodenal tube hourly with 30 c.c. of soda bicarbonate solution, ounces one to eight ounces of water. The patient was given demerol for pain, vitamin K, protein hydrolysates, electrolytes, fluids to meet the body needs, and the use of tobacco was interdicted. His blood pressure, electrolytic balance, and blood protein were checked frequently.

The return from the stomach was bloody at first. This, however, cleared in four or five hours. The gastro-duodenal tube was removed after four days. There was no recurrence of bleeding. After the tube was removed, he was given not more than one ounce of water every hour. He was also given amphogel, drams one hourly, during the day, and atropine, grains 1/100, hypodermically every 4 hours. The second day he was given milk ounces one every hour. This was increased as he tolerated it better. His blood count and hemoglobin were brought to former levels with repeated blood transfusions. A roentogram March 21st revealed a duodenal ulcer with a crater. A gastric resection was done April 7, 1948. An ulcer which had perforated the first portion of the duodenum into the pancreas was found. The floor of the ulcer in the pancreas was covered with thin granulations through which a large vessel was visible. This vessel, no doubt, had been eroded and the hemorrhage issued from the erosion. The patient received 7,000 c.c. of blood during his hospital stay. His recovery was uneventful and he returned to his work as an electrician.

*Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

The other case was that of a 65 year old, retired soldier, admitted April 6, 1948, with a history suggestive of gastric ulcer for twenty years. The admitting physician also thought of the possibility of cirrhosis of the liver. He was transferred to us from an Army Hospital, where he was treated six days and given a tentative diagnosis of carcinoma of the stomach. While there he was digitalized because of evidence of cardiac failure. During those six days he had a severe hemorrhage, with hematemesis. His blood pressure dropped to 70/40, and his hemoglobin from 11.5 to 6 grams. While in the Army Hospital, he was given three transfusions of 500 c.c. of blood each. When he was transferred to the Veterans Hospital, he was given a transfusion because of anemia. The following day his red cells were 1,800,000, and hemoglobin 5.5 grams. He did not show improvement after two more transfusions and was turned over to the surgical service. Since the patient's condition was very poor, the same regime was used on him as on patient number one, except that an attempt was made to save the services of a special nurse. He was placed in a ward with another patient who required constant care, and these two patients shared one attendant. This proved to be a mistake. The patient pulled out his gastro-duodenal tube three times in the first 48 hours, and at the end of that time had a minor hemorrhage. He was then given a special nurse. The return from his stomach cleared up in a few hours and he had no more bleeding. Gastric evacuation was discontinued after five days. A gastro-intestinal roentogram April 19, 1948, revealed what was thought to be a duodenal ulcer. The patient had a gastric resection April 30, 1948. An ulcer of the stomach with perforation into the pancreas was found. The ulcer was near the lesser curvature posteriorly. The pathologist reported two points of projecting eroded vessels occluded by an organizing thrombus in the ulcer. The patient had an uneventful recovery and returned to his home in retirement.

This method of treatment has been used on other patients with hemorrhage from ulcer, with equal success. The two cases are presented because they illustrate hemorrhage from ulcer that is difficult to control. It is believed that points in favor of this method of treatment are: (1) The stomach is put at physiologic rest; (2) Acidity of the stomach is controlled; (3) The surgeon is warned promptly if hemorrhage recurs; (4) The hemorrhage is checked temporarily, giving time to make a diagnosis by roentogram, and to build the patient up for operation.

SKF Laboratories Awarded Grant for Cancer Research.

One of the first grants for cancer research from the National Cancer Institute to a non-academic research center has been awarded to Smith, Kline & French Laboratories, Philadelphia pharmaceutical manufacturers. The grant, in the amount of $10,800, will be administered by Dr. Glenn E. Ullyot, head of the organic chemistry section of the firm's research laboratories.

Dr. Ullyot's investigations will center around colchicine, an alkaloid derived from the bulbous herb known as meadow saffron or autumn crocus. This substance is known to arrest multiplication of cancer cells in experimental animals, but it is also injurious to the normal cells. Preliminary research with closely related compounds indicate that there may be some hope of developing colchicine derivatives with a more specific action against the disease. Already widely experienced in colchicine chemistry, Dr. Ullyot will extend his studies in an attempt to find a cancer-inhibiting compound that will not damage the host.

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Disease Control of the State Department of Health for August 1949 as compared with the same month in 1948, and for the period of January through August 1949 compared with the same period in 1948, is as follows:

	Aug. 1949	Aug. 1948	Jan.-Aug. 1949	Jan.-Aug. 1948
Typhoid and paratyphoid	21	13	91	93
Diarrhea and Dysentery	1,402	614	3,914	2,770
Measles	136	97	21,237	6,063
Scarlet fever	24	16	456	611
Diphtheria	9	10	92	143
Poliomyelitis	109	152	161	258
Meningitis	11	7	66	67
Undulant fever	4	3	42	60
Rocky Mountain spotted fever	27	19	86	58
Tularemia	6	5	25	41

RESULTS OF ANTIBIOTIC THERAPY

There is a growing and gratifying tendency upon the part of physicians, in reporting certain types of communicable diseases, to report upon the results of antibiotic therapy. We heartily appreciate these treatment reports and hope the physicians will continue to send them. Though not primarily responsible for treatment, this being the function of the private physician, the State Health Department would like to act as a clearing-house of practical information in regard to treatment results. Since we send out weekly morbidity reports to all reporting physicians of the State, these weekly reports may well serve as a two-way channel of information of communicable disease incidence and results of treatment.

In reviewing these treatment notes on reports of communicable diseases of the last few months, we find reference to the successful use of antibiotics in Rocky Mountain spotted fever, typhoid fever, undulant fever and atypical pneumonia. The most dramatic of these clinical reports have concerned the treatment of Rocky Mountain spotted fever with Aureomycin. In cases reported, fever, prostration and rash have responded within 48 hours to intensive Aureomycin therapy. One report showed similar prompt results with the use of Chloromycetin. In line with the results obtained by other clinicians the reports from our physicians show equally excellent results from the use of Aureomycin in acute brucellosis. These reports are most encouraging when we recall the unsatisfactory treatment of undulant fever before the advent of the antibiotics.

On the laboratory side, the limited experience of our State Health Department Laboratory in the examination of blood specimens from Rocky Mountain spotted fever cases treated with antibiotics for complement-fixing bodies and non specific agglutinins, as demonstrated by the Weil-Felix reaction, indicates that there is an increase in titre as shown by both tests in spite of antibiotic therapy. However, the increase in titre does not attain the levels found in these cases prior to the introduction of this therapy.

MEDICAL SOCIETY OF VIRGINIA
PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

Reception Room and Literature.

It seems that compulsory health insurance will not be inacted in 1949. The President's Reorganization Plan No. 1 also seems dead, although the philosophy, politics, and the pressure of both of these should not be ignored.

Of course, we can expect proponents of government medicine and the extension of other government services, to be very active during 1950 under the leadership of a President sharing their point of view.

Dentists and Pharmacists in Virginia are cooperating nicely in our educational campaign. They are helping in speaking engagements, in discussion groups, with the distribution of literature, talking with influential people, and in getting resolutions to Washington.

It is hoped that every member of the Medical Society of Virginia will (beginning not later than October 1), make conspicuous display of the Fildes painting of "The Doctor" and of literature pertinent to the subject of compulsory health insurance.

Ample literature is in the office, but orders are not coming in. It will take individual and combined effort to carry this story to the people. You are urged to join in now.

Prepayment Plans Said to be Exploited.*

Dr. H. Boyd Stewart, President of the American Society of Anesthesiologists, recently stated: "From many sources over the United States, I am hearing increasingly numerous reports that surgeons and anesthesiologists are being cited in contempt by the public in their relations with patients who are insured under Blue Cross and Blue Shield Plans."

He went on to say that "the universal charge against the physician is that he is guilty of exploitation of his patients by accepting a fee from a pre-payment plan and then charging the patient a private fee as large as he was accustomed to levy before the patient had insurance."

He indicated that patients are asking the question, "Who is the one insured and protected under these voluntary plans, the patient or the physician?"

Dr. Stewart indicated that "most of these voluntary plans had been sponsored by, and are being operated under the supervision of the medical profession, and that the success of it depends almost entirely upon the integrity and cooperation of the profession."

He stated further, in part, "It behooves the individual physician who participates and who is reimbursed by these plans to use discretion and observe honesty, lest he inadvertently contribute to a justifiable wave of resentment."

(*Taken from the "President's Page" of the Newsletter of the American Society of Anesthesiologists, Inc., August 1949.)

Editor Looks at British Medicine.

After five weeks in Great Britain and a study of their system of socialized medicine, John W. McPherrin, editor of *American Druggist,* stated: "It is our conclusion that there is no hope, peace of mind, or real security for anyone in the belief that 'The State is my Shepherd, I shall not want.' This is the real concept of the welfare state and—nothing, not even a free health service is more important to a nation that the spirit of its people."

He adds that "so far as the British Health scheme is concerned, it is a major expression of the welfare state idea, and as a health scheme, it is very similar to the plan President Truman has proposed for this nation."

Mr. McPherrin continues, "If this nation of ours should ever adopt the same kind of a scheme, we must be prepared to accept the same increase in taxes and government controls. . . ."

It is believed that "security" would not be found in the "socialist idea" that "the state is my shepherd", for acceptance of this idea could lead to a deterioration of the medical services, and a loss of faith in the individual.

Thanks to Our Senators!

The U. S. Senate on August 16th rejected by a vote of 60 to 32 the President's reorganization Plan

No. 1, which would have created a Department of Public Welfare under which Federal medical services would have been included. Senator A. Willis Robertson and Senator Harry Flood Byrd were among those who voted against this plan.

You would perhaps be interested in knowing that in addition to voting for the resolution which prevented the President of the United States from putting his proposed Reorganization Plan No. 1, into effect, Senator A. Willis Robertson discussed with his colleagues testimony which had been presented before the committee, pointing out that no material economies would result from it and that it was not in accordance with the recommendations of the Hoover Commission. In addition, he voted against the plan as a member of the Committee on Expenditures in the Executive Departments, as well as on the floor of the Senate, when it came up for final action.

Perhaps no one will make a better suggestion than that our membership take the time out for a personal note to Senator Robertson and Senator Byrd in expression of our gratitude for their stand on this matter.

Press Room.

For the convenience of those wishing to contact the press during the convention at the Chamberlin Hotel, please check with the bulletin board there.

CORRESPONDENCE

The Study of Twins.

To THE EDITOR:

The study of twins is of great value in providing information concerning the respective importance of hereditary predisposition and environmental influences in disease in man. The results of the use of this method have shown an hereditary predisposition to tuberculosis, diabetes, and tumor formation, and a high, medium or low intelligence quotient.

There is some *a priori* evidence showing an hereditary predisposition for peptic ulcer. Only six cases of the occurrence of peptic ulcer in the one or both of mono- or dizygous twins have been reported in the readily accessible literature. Since twins are born in 1 of 86 births and identical twins in 1 of 344 births and the general incidence of ulcer is from 5 to 10 per cent there should be plenty of material available.

I should like to ask physicians to cooperate in assemblying such material by sending me cases in which (1) one or both twins develop peptic ulcer, (2) the site of the ulcer, (3) the age of onset of ulcer, (4) the type of twins (monovular or diovular), (5) the sex of the twins, (6) the date of birth of the twins, and (7) the number and age of the brothers and sisters and the absence or presence of ulcer in each.

Yours sincerely,

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August 30, 1949

BOOK ANNOUNCEMENTS

Poliomyelitis. Papers and Discussions Presented at the First International Poliomyelitis Conference. Compiled and Edited for the International Poliomyelitis Congress. Philadelphia, J. B. Lippincott Company, 1949. xi-360. Illustrated. Cloth.

Marihuana in Latin America The Threat It Constitutes. By PABLO OSVALDO WOLFF, M.D., Ph.D., M.A., Member of Expert Committee on Habit Forming Drugs of the World Health Organization. Sponsored by Washington Institute of Medicine. The Linacre Press, Inc., Washington, D. C. 1939. Pamphlet of 56 pages. Price $1.50.

Atlas of Obstetric Technic. By PAUL TITUS, M.D., Obstetrician-Gynecologist to the St. Margaret Memorial Hospital, Pittsburgh; Secretary, American Board of Obstetrics and Gynecology. Illustrations by E. M. SHACKELFORD, Formerly Medical Illustrator, John C. Oliver Memorial Research Foundation, St. Margaret Memorial Hospital, Pittsburgh. Second Edition. St. Louis, The C. V. Mosby Company. 1949. 197 pages. Cloth. Price $7.50.

EDITORIALS

Claude Bernard (1813-1878)

THE great French physiologist and father of experimental medicine was the *beau ideal* experimenter. He had wonderful dexterity and a beautifully logical mind so that his experiments were perfectly planned to demonstrate the truth. His frequently quoted advice to those undertaking scientific investigation illustrates his own attitude—"Put off your imagination, as you take off your overcoat, when you enter the laboratory. Before the experiment, and between whiles, let your imagination wrap you around; put it right away from you during the experiment itself lest it hinder your observing power." Garrison says "All of Bernard's greatest discoveries were based upon accidently discovered facts, which he used as clues to larger results through his wonderful power of thinking physiologically." Fulton, on the other hand, says that accident played no part in Bernard's experiments. Be that as it may, no one disputes the importance or the greatness of Bernard's discoveries. He clearly and conclusively demonstrated the function of the pancreatic juice. DeGraaf, nearly 200 years previously, had successfully established pancreatic fistulae in dogs but his experiments with the pancreatic secretion were not conclusive. It remained for Bernard to fully establish the importance of the pancreatic juice.

Bernard's work on the glycogenic function of the liver was entirely without precedent. Foster says that the whole story of glycogen lies in Bernard's own writings. He showed that the liver made glycogen and poured it out into the blood stream as an "internal secretion", a term that he coined. He isolated the carbohydrate which he named glycogen. He also showed that puncture of the floor of the fourth ventricle in dogs produced experimental diabetes. By chemical and histological methods he demonstrated the presence of glycogen in various tissues of the body, especially the muscles and the rapidly growing tissues of the embryo. Seldom has so great a discovery been made and carried out to its conclusion single handed and without outside help. Bernard "not only laid the first stone but left a house so nearly finished that other men have been able to add but little."

His third great discovery was the vaso-motor nerves. He was also interested in the physiological effects of poisons and experimented with curare and carbon-monoxide gas, as well as with anesthesia and asphyxia.

Claude Bernard was born on July 12, 1813 in the village of Saint-Julien near Villefranche. He was educated in the local Jesuit school and at the college at Lyons. For economic reasons he left the college before completing the course and took a position in an apothecary shop. In his off hours he wrote a successful comedy that was played but not published. Later, he wrote a more ambitious drama and at the age of 21 he went to Paris to embark on a literary career. Girardin read the manuscript and recognized its merit. Nevertheless, he advised the young man to study medicine as a surer means of making a living. Bernard followed his advice. In his fifth year he came under the influence of Magendie, becoming first his assistant and finally his successor at Magendie's death. Even with such connection his laboratory facilities were meagre, and most of his early and important work was done in odd corners and out of the way places and in private laboratories.

Very little is said of Bernard's private life. He had a wife and two daughters but his wife became estranged, because she resented Bernard's refusal to go into private practice where the monetary returns would have been greater. One of his daughters spent much of her time founding hospitals for dogs and cats with a view of atoning

for what she considered the crimes of vivisection, which her father had committed. So he was spared the diversions of family life. His pupils were devoted to him. He received every honor France could give him including membership in the French Academy. When he died on February 10, 1878, he was accorded a public funeral, the first man of science to be so honored.

EDITOR'S NOTE: This is the sixth of a series, "Doctors for whom the public should be thankful."

Rochester, Minnesota

IN 1854 Rochester was a crossroads camp ground in Southern Minnesota for immigrant wagon trains. It was established by George Head of Rochester, New York. At the end of the Civil War it was a country village with nothing to distinguish it from any other county seat in the State. It was unheard of outside of the State of Minnesota. It had however something no other village had. It had a country doctor who had two sons who were fired with the determination of being the best doctors in the world, and with capacities for work that amounted to genius. There were no other medical assets—no healing springs, no salubrious climate. In fact, its first hospital was the direct result of a death-dealing tornado.

At present all the world knows of Rochester and not an inconsiderable part of the people of the world has been there. The benches in the parks and on the sidewalks outside of its hotels are filled with cripples and invalids of all sorts, such as one sees at Excelsior Springs, Missouri, Hot Springs, Arkansas, or the recreation center of Daytona, Florida, in February. According to the *American Guide Series for Minnesota* (1938), Rochester has forty hotels, eighty-four apartment buildings, two hundred rooming houses, twenty restaurants and a twenty acre tourist camp. When an individual starts across the street, either on foot or in a wheel chair, all automobiles stop at a respectful distance as if to say the town is yours, take your time.

St. Mary's Hospital, which was started as a poorly equipped forty bed hospital in 1889 after the tornado, is now one of the great hospitals of the world. Besides, there are two other hospitals and one hotel-hospital with a total capacity of 1533 patients.

Rochester also has the largest pea cannery in the world, but few have ever heard of it. The focal point is the Mayo clinic building, a fifteen story office building with all the latest facilities for prompt and accurate diagnosis. The personnel consists of five hundred staff members and some three hundred and fifty research fellows, together with technicians, nurses, secretaries etc. In the summer some 10,000 patients "go through" the Clinic each month. In the winter months the number drops to 5,000 or 6,000. The greatest number in any one month has been 13,000. This overtaxed the laboratories and they got behind in their reports.

In the park in front of the Clinic is the Mayo Foundation of Hygiene and Medicine which contains a number of models and charts of medical interest. To our mind the most interesting exhibit is an old Bausch and Lomb microscope that has a card describing it as follows: "Bausch and Lomb microscope property of Dr. William Worrall Mayo. It was bought with money obtained from placing a mortgage on the old homestead which occupied the site upon which the Mayo Clinic Building now stands." Such was the beginning of the Mayo Clinic which is present day Rochester. Not only has the Clinic paid its way as it grew, but it has contributed two million dollars to the University of Minnesota as a Foundation for post graduate medical instruction. In this day, when hospitals and medical schools are running in the red and are seeking Federal aid, it is refreshing to know of a medical institution that maintains its independence.

Never Believe What a Patient Says about Another Doctor

THE Centennial of Sir William Osler's birth was celebrated throughout the world in a remarkable manner. Almost every medical magazine took some notice of it, and some, notably the *Bulletin of the Johns Hopkins Hospital, The Canadian Medical Association Journal* and the *Archives of Internal Medicine* devoted entire issues to reminiscences and sketches of Osler and appraisements of his place in medicine. He was discussed as a clinician, as an investigator, as a pathologist, as a teacher, as a scholar, as a book collector, as a medical historian, as a man and as a promoter of good relations among doctors. His students collected his wise sayings and maxims. They usually went by the name of Oslerisms. One of the most characteristic Oslerism had to do with listening to tales the patient tells about his or her previous doctor. His advice was never to believe what a patient says about another doctor.

Dr. Osler did not qualify this statement. There was no need to. The least reflection would show how unwise it would be to pay any attention to what a patient says on such a subject. In the first place, he or she is a biased and therefore an untrustworthy witness. The patient is either over enthusiastic or else disgruntled. In the second place, an untrained person, especially a sick one, is very apt to misunderstand medical statements. How frequently do your own patients misunderstand your own diagnoses or prognoses? For instance, no wise doctor ever makes a positive diagnosis of early pregnancy even with the newer laboratory tests. It is our invariable rule never to make such a diagnosis and yet we not infrequently hear that we have told a patient positively that she is pregnant. Another statement we frequently hear is that her doctor told her that she could never become pregnant. There is no use to argue about such matters. The best thing to do is to follow Osler's advice and ignore them. It promotes better feeling among doctors.

Tap Water Sodium in the Low Salt Diets

LOW salt diets are being used more and more extensively in the treatment of heart failure, hypertension, renal disease and toxemias of pregnancy. Cole (*J.A.M.A.* 140:19, 1949) calls attention to the importance of knowing the salt content of the water used in preparing these diets. Where the salt content of the drinking water amounts to more than 10 mgm. per 100 cc. as it does in Aberdeen, S. D., Biloxi, Miss., Crandall, Galveston and Houston, Texas; Galesburg, Ill.; Kansas City and Nevado, Mo.; Los Angeles; Marion, Ohio; Minot, N. D.; Oklahoma City, and Phoenix, Arizona, it seriously interferes with this type of treatment. The problem is further complicated by attempts at softening naturally hard waters. The usual softening process raises the sodium content of the water.

The ordinary routine analysis of public water supplies does not give any information on the sodium content. Sometimes the combined sodium and potassium content is given, but of course that does not help when one is figuring on the sodium content of a diet. Being interested in this subject we asked Dr. Eller, former Health Director of the City of Richmond, about the sodium content of the city's water. He had a special analysis run which shows a sodium content of 5.01 per million which is a negligible quantity.

Charles Armistead Blanton, M.D., LL.D.,

1859-1949

DR. CHARLES A. BLANTON was born in "West Hill", Cumberland County, July 23, 1859 and died at his home, 826 West Franklin Street, September 6th, 1949. While not the oldest member of the Medical Society of Virginia, he had been a member longer than anyone else, having joined the Society in 1881. Dr. Blanton was the son of a doctor and the father and grandfather of doctors, and exemplified all that was finest in the art of medicine.

Graduating at the Medical College of Virginia in 1881, he spent his entire professional life in Richmond. He always enjoyed a fine practice. We say enjoyed advisedly for no one was more complacent with the average patient and no one worked harder over a seriously ill one. In 1887 he became a member of the adjunct faculty of the Medical College of Virginia, which at that time and for a number of years afterwards, was a delightful medical club. In 1894 he was promoted to the faculty, filling the Chair of Materia Medica and Therapeutics until 1898, and the Chair of Children's Diseases until he was made emeritus professor in 1911. It was the contacts with such teachers as Dr. Blanton, who made their living practicing medicine and who of necessity must be masters of the art of medicine as contrasted to the science of medicine, that was such a valuable part of the medical teaching of forty or fifty years ago.

Not only was Dr. Blanton a good doctor but he was also a good citizen and a good churchman. He was a member of the Board of Visitors of Hampden-Sydney College, a member of the finance committee of the Union Theological Seminary, a member of the Society of Colonial Wars and of The Virginia Historical Society. He was a Pi Mu and an O.D.K. He had been a deacon and an elder in the First Presbyterian Church in Richmond, and was an elder of Brown's Presbyterian Church in Cumberland County, a church that was founded by his grandfather, Dr. Jesse S. Armistead. In 1888, Dr. Blanton married Miss Elizabeth Brown Wallace of Fredericksburg. He is survived by one daughter, two sons, Drs. Wyndham B. Blanton and H. Wallace Blanton, five grandchildren and nine great-grandchildren.

Dr. Blanton was always courteous and dignified and was an excellent example to the younger members of our Society.

Floral Eponym

Stapelia

STAPELIUS, JOHANNES BODAEUS D. 1636

STAPELIUS graduated in medicine at Leyden on May 3, 1625, and established himself as a practitioner in Amsterdam. He is said to have been a learned young man with a wide knowledge of Latin and Greek, and a special devotion to botany.

The genus Stapelia of the milk weed family honors him. Stapelia are South African, cactus-like desert plants. The flowers are large and have an unpleasant odor; hence the common name, carrion flower.

SOCIETIES

Augusta County Medical Association.

At the meeting of this Association held on August 3rd, the following officers were elected: President, Dr. Charles F. Gaylord, Staunton; vice-presidents, Drs. S. G. Saunders, Waynesboro, McKelden Smith, Staunton, and George B. Tyler, Staunton; secretary, Dr. Paul A. Woods, Waynesboro; treasurer, Dr. Boyd H. Payne, Staunton; and censor, Dr. A. F. Robertson, Staunton.

Medical Society of Northern Virginia.

Dr. Amos Koontz, assistant professor of surgery at Johns Hopkins University, Baltimore, was guest speaker at a meeting of this Society on August 9th at Luray. His subjects were "Experiences in Two World Wars" and "Tantalum Mesh in Hernia". Drs. J. A. Miller and G. H. Murphy gave reports of case studies and Dr. M. J. W. White showed a motion picture on leprosy. Dr. H. W. Miller gave a report of the meeting of the Virginia Pharmaceutical Association.

Dr. H. W. Miller, Woodstock, is president of this Society and Dr. F. D. Maphis, Strasburg, secretary.

Orange County Medical Society.

At its meeting on August 17th, Dr. H. C. McCoy, Gordonsville, was elected president to succeed Dr. C. Cameron Kress, Orange; Dr. Frank G. Scott, Orange, vice-president; and Dr. J. Garnett Bruce, Jr., Gordonsville, secretary-treasurer.

Rockingham County Medical Society.

Officers of this society are: President, Dr. Charles C. Powel, Harrisonburg; vice-president, Dr. Hollen G. Helbert, Harrisonburg; and secretary-treasurer, Dr. George S. Row, Bridgewater.

Southampton County Medical Society.

New officers of this Society are: President, Dr. T. A. Morgan (re-elected); vice-president, Dr. Henry R. Gardner, Jr.; and secretary, Dr. W. D. Varner. All are of Franklin.

The Williamsburg-James City County Medical Society

Held its regular bi-monthly meeting in the Library of the Eastern State Hospital preceded by dinner in the Officers Dining Room of the Hospital, the President, Dr. Joseph E. Barrett, presiding. Guests present were Dr. Ralph M. Chambers of New York and Dr. George B. McMurray of Bradenton, Florida, Inspectors from the Central Inspection Board of the American Psychiatric Association, who were engaged in making an inspection survey of the Eastern State Hospital. Another guest was Dr. J. R. Turnage of Sandston. Action was taken by the Society on the death of Dr. Albert M. Sneed, who was the first President of the revived County Society. Under miscellaneous business, Dr. Granville L. Jones, Chairman of the Red Cross Blood Program Committee of the James City County Red Cross Chapter, announced the visit of the Mobile Blood Unit to Williamsburg on October 14th and asked for support and cooperation from the Society.

The scientific session consisted of talks by Mr. W. R. Reese, Clinical Psychologist and Dr. Eleanor Beamer-Maxwell, Acting Psychiatrist, both of the Williamsburg Area Guidance Clinic which is opening at this time. The speakers discussed the general policies and operating procedures of the Clinic. They stressed the need for close cooperation with the Medical Society, asked for reports covering physical factors and history on cases referred by physicians or who had been known by the physicians although the referral was made by the school or some other organization. It was brought out that the Clinic expects to refer back to the family doctor every possible case for treatments which can be rendered by the family doctor. While the Clinic will admit adults, the most hopeful field of work in Mental Hygiene is among children. In some instances in which the child is the referred patient, it will be found helpful or even necessary to treat the parents as well. The Clinic is one being established by the Department of Mental Hygiene and Hospitals of the Commonwealth of Virginia in cooperation with the United States Public Health Service.

GRANVILLE L. JONES,
Secretary-Treasurer

The Smyth County Medical Society

Held its regular meeting at Hotel Lincoln, Marion, on August 17th. This was preceded by a delightful cocktail party given at the home of Dr. and Mrs. D. C. Boatwright, which was attended by twenty-nine including the ladies.

It was moved and seconded that the business be postponed until the next meeting, and members and guests were delightfully entertained by "Dr." Bob Kent, of radio station W.M.E.V., who gave us a talk on "Chiropracty".

RICHARD C. POTTER,
Secretary-Treasurer

Wythe-Bland Medical Society.

Members of the Wythe-Bland Medical Society, meeting on August 26 at the George Wythe Hotel, went on record as being unanimously in favor of voluntary health insurance and opposed compulsory federal health insurance. Every doctor present felt that the greatest service to his patients at the least cost could be rendered through several of the voluntary health insurance plans.

The guest speakers were Dr. W. W. Walton, who spoke on "The Treatment of Burns", and Dr. James Chitwood, who spoke on "Thyroid Diseases". Both speakers are on the staff of the Pulaski Hospital.

The Wythe-Bland Medical Society was reorganized November 1948 and has been holding regular monthly meetings since that time. The President is Dr. C. D. Moore, of Wytheville, Vice-president, Dr. George Kegley, of Bland, and Secretary-Treasurer, J. E. Mangus of Wytheville.

J. E. MANGUS

NEWS

Medical Society of Virginia.

Last call for the 102nd meeting of the Society has been sent all members in the form of the program. The scientific part has been arranged to give something of special interest in each session, and the exhibits—scientific and technical—are up to a high standard. Tuesday evening has been given over to social features. There are many places of special interest to be seen in the vicinity of our meeting place—Fort Monroe—and a large attendance is expected.

The Virginia Diabetes Association

Is having its first meeting at the Hotel Chamberlin at Old Point Comfort, in connection with the Medical Society of Virginia annual meeting, at 3:00 P. M. on Sunday, October 9.

The weather and the place should combine to make a very enjoyable meeting. All members of the state society are invited to attend and any who are interested are urged to join the society. The meeting should be interesting, with papers by different clinicians in the state. Following the scientific program there will be a short meeting for adoption of by-laws and election of officers.

M. C. V. Alumni Dinner.

Medical alumni of the Medical College of Virginia will hold their annual dinner, preceded by a social hour, during the convention of the Medical Society of Virginia at the Hotel Chamberlin, on Monday, October 10 at 5:30 P. M. Dr. Edward L. Alexander will be in charge of the social hour and will preside over the dinner and brief meeting following.

Dr. Harvey B. Haag, Dean of the School of Medicine of the College, will speak on "Trends in Medical Education at the College".

Dr. Waverly R. Payne, Chairman of the Committee on Arrangements for the Society's Convention, will extend greetings from Tidewater Virginia, and Dr. H. Hudnall Ware, Jr., Professor of Obstetrics at MCV, will speak briefly on the War Memorial Alumni Building, the Alumni Association's House, which is now undergoing extensive renovations and which it is hoped will be ready for occupancy before the end of the current year. Dr. Roshier W. Miller, Emeritus Professor of Materia Medica and Therapeutics, will give the invocation.

All alumni of the Medical College of Virginia are urged to attend this dinner and to bring their wives and other guests.

News from the State Department of Health.

Carroll and Grayson counties have a newly established Health Department with Dr. Mildred Esther Scott as Health Officer. Dr. Scott's appointment became effective August 1, 1949.

Dr. Stuart T. Bray has been appointed Health Officer for Buchanan and Tazewell counties, as of October 3, 1949.

Dr. William B. Wild has been appointed Health Officer for the Rockingham-Harrisonburg Health

District, this appointment becoming effective October 3, 1949.

Dr. S. S. Shouse, Health Officer for Appomattox, Buckingham and Cumberland counties has been granted a year's military leave, effective August 26, 1949.

Dr. W. R. Southward has been appointed Director of Venereal Disease Bureau of the Virginia State Health Department. Dr. Southward begins this work October 1, 1949.

Roanoke City Board of Health.

Dr. E. G. Gill has recently been elected chairman of the Board and Dr. W. R. Whitman, vice-chairman. This is for a two-year period.

Dr. J. D. Middlemas,

Recently of Orange, is now at the University of Virginia Hospital where he is taking a residency in psychiatry.

Post-Graduate Course in Ophthalmology and Otolaryngology.

The Post-Graduate course sponsored by the Virginia Society of Ophthalmology and Otolaryngology will be held November 29, and 30 and December 1 and 2. The first two days are for otolaryngology and the remaining two for ophthalmology. The courses will be given at Baruch Auditorium, Medical College of Virginia, Richmond.

The West Virgina State Medical Association,

At its recent meeting at White Sulphur Springs, elected Dr. Russell B. Bailey of Wheeling as president to assume office January 1, 1950. Dr. T. M. Barber of Charleston was re-elected secretary-treasurer for his twenty-third consecutive term. The 1950 annual meeting will also be held at White Sulphur Springs.

Dr. Breyfogle Resigns.

Dr. Herbert S. Breyfogle, Virginia's first chief medical examiner, has resigned effective October 1st. He will be succeeded by Dr. Geoffrey T. Mann, his assistant, who has been appointed for a three year term beginning October. Dr. Breyfogle advised that he plans to study law on the West Coast.

Dr. Julien H. Meyer,

Roanoke, announces the change of his office to the Shenandoah Building where his practice will be limited to obstetrics and gynecology, including female urology.

Dr. E. B. J. Whitmore,

Recently junior physician at Western State Hospital at Staunton, has been transferred to the post of senior physician at Central State Hospital, Petersburg.

Dr. E. G. Gill,

Roanoke, has returned from Europe where he attended the Fourth International Congress of Otolaryngology. The sessions were held at London, Oxford, Cambridge and Edinburgh. Dr. Gill presented a paper on "The Effects of Air Pollution on the Respiratory Tract".

Dr. O. L. Ramsey, Jr.,

Recently a staff member of the hospital at Holden, W. Va., has opened offices at Madison Heights, Virginia, for general practice.

Dr. Walter E. Vest,

Huntington, W. Va. was elected president of the new West Virginia medical licensing board at its organization meeting this summer.

The Piedmont Proctologic Society,

A sub-section of the American Proctologic Society, was organized in Asheville, N. C. on July 30, 1949. All of the proctologists, who are members of the American Proctologic Society, in the states of Virginia, North Carolina, South Carolina, Tennessee and Georgia are eligible for membership and all of the states were represented at the organization meeting.

Dr. Isaac E. Harris, of Durham, was chairman of the organization committee; Dr. C. S. Drummond, of Winston-Salem, Secretary; Dr. Geo. F. Parker, of Asheville, the host; Dr. W. T. Brockman, of Greenville, was to select a name; Dr. C. R. Deeds, of Hendersonville, to draw up the Constitution and By-Laws.

Dr. W. T. Brockman, of Greenville, S. C. was elected first President; Dr. C. R. Deeds, of Hendersonville, N. C. its first Vice-President; Dr. C. S. Drummond of Winston-Salem, N. C. the first Secretary-Treasurer.

The next meeting will be held in Atlanta, Ga. on December 5, 1949.

Post-Graduate Course on Urinary Tract Disorders.

On November 17, 18, and 19 the Frank E. Bunts Institute and the Cleveland Clinic will present a continuation course for physicians on "Medical and Surgical Disorders of the Urinary Tract". Dr. Herman L. Kretschmer of Chicago will give the evening address November 17 on "Clinical Significance of Hematuria". The other out-of-town guest speaker will be Dr. Louis Leiter of New York, who will speak on "Uremia" Saturday morning, November 19, and who will take part in the panel discussion closing the course.

Inquiries regarding the complete program and registration can be addressed to the Director of Education, Frank E. Bunts Educational Institute, 2020 East Ninety-third Street, Cleveland 6, Ohio.

Post-Graduate Courses in Diseases of the Chest,

Sponsored by the Council on Post-Graduate Medical Education and the New York State Chapter of the American College of Chest Physicians, will be given November 14-18, at the Hotel New Yorker, New York City. Full information may be received from Dr. Frank R. Ferlaino, secretary, 580 Park Avenue, New York 21, N. Y.

Dr. James L. Patterson,

Logan, W. Va. was elected president of the West Virginia Chapter, Medical College of Virginia Alumni Association at its recent meeting.

Jefferson Medical College, Philadelphia,

Has received official word that Dr. A. J. Orenstein of the class of 1905 has been elected an Honorary Fellow of the Royal Society of Tropical Medicine and Hygiene. This honor has been conferred upon only thirty-five men during the forty-two years of the Society's existence. Seven of these men, now deceased, were Americans. There are only seven Honorary Fellows living today, including Dr. Orenstein, the only American.

General Surgeon.

Board eligible; seven years formal training; two years army surgery; desires association with established surgeon, group or private practice opportunity. Married, 39, immediate availability. Write "Surgeon", care the Virginia Medical Monthly, 1200 East Clay Street, Richmond 19. (*Adv.*)

OBITUARIES

Dr. Charles Armistead Blanton

Prominent and beloved Richmond physician, died September 6th. He was a native of Cumberland County and ninety years of age. Dr. Blanton graduated from the Medical College of Virginia in 1881 and had practiced in Richmond since that time. In 1887 he was appointed to the faculty of the College, where he was professor of materia medica and therapeutics, the first professor of pediatrics, and a demonstrator of anatomy. He had been emeritus professor of children's diseases of the College since 1911. Dr. Blanton had been a trustee of Hampden-Sydney College since 1911 and in 1931 the College conferred on him the honorary degree of LL.D., which was the second time in its history they had honored a member of its board. He was very active in the work of the Presbyterian Church of the State, having served as an Elder and on the finance committee of the Union Theological Seminary. Dr. Blanton had been a member of the Medical Society of Virginia for sixty-two years and was made a Life Member at its 1948 meeting. A daughter and two sons, Drs. Wyndham B. Blanton and H. Wallace Blanton, survive him.

Dr. Talmage Bryan Weatherly,

Well-known Richmond eye, ear, nose and throat specialist, died September 4th following a long illness. He was sixty-one years of age and a graduate of the former University College of Medicine, Richmond, in 1912. Dr. Weatherly had practiced in Richmond since 1914 and was at one time ophthalmologist for the Retreat for the Sick Hospital. He was active in many fraternal organizations, among them the Richmond Masonic Lodge. He had been a member of the Medical Society of Virginia for thirty-four years. His wife survives him.

Dr. George Gilbert Crawford,

Prominent physician of Strasburg, died September 6th after an illness of several months. He was seventy-three years of age and a graduate in medicine from the University of Virginia in 1901. Dr. Crawford had practiced at Strasburg for forty-one years and served as its Mayor for twenty years. He

was president of the Shenandoah Valley Medical Society and a past president of the Medical Society of Northern Virginia. He had been a member of the Medical Society of Virginia for twenty-five years. His wife and five children survive him.

Dr. Henry Garnett Plaster,

Washington, D. C., died August 3rd, having been in ill health for more than a year. He was a native of Bluemont and seventy years of age. Dr. Plaster graduated from the former University College of Medicine, Richmond, in 1899 and practiced in Loudoun County for more than twenty years before locating in Washington in 1925. He had been a member of the Medical Society of Virginia for fifty years and would have been made a Life Member at the annual meeting in October. His wife and two children survive him.

Dr. John William Freed,

Staunton, died June 2nd at the age of seventy-four. He received his medical degree from the University of Virginia in 1901, and was on the staff of the Western State Hospital for forty years. He had been a member of the Medical Society of Virginia for forty-seven years. His wife and three children survive him.

Resolution Upon the Death of Dr. Staige Davis Blackford.

Dr. Staige Davis Blackford died of coronary thrombosis in Charlottesville, Va., July 17, 1949. He was Professor of the Practice of Medicine at the University of Virginia Medical School.

Dr. Blackford was the son of Dr. Launcelot M. Blackford and Eliza Ambler Blackford. He was born December 28, 1898, at Alexandria where his father was headmaster of the Episcopal High School for many years. He attended Episcopal High School and the University of Virginia. He received B.S. and M.D. degrees, the latter in 1925. As a student he was an active leader in all aspects of undergraduate life in school and the university.

Following graduation, he interned at the Massachusetts General Hospital in Boston. He returned to the University of Virginia as a member of the Faculty in 1927. He was the author of numerous articles on tularemia, gall bladder disease, spontaneous pneumothorax, and other topics. He was keenly interested in both under-graduate and post-graduate medical education. As Chairman of the Medical School Committee on Post-Graduate Education, he organized many refresher courses for practicing physicians. He was the first Editor of the University's Medical Alumni Bulletin. He was the first chairman of the Clinical Staff of the University Hospital.

He was a member of the Albemarle County Medical Society, Medical Society of Virginia, American Medical Association, American College of Physicians, American Clinical Climatological Association.

During World War I Dr. Blackford served with the University of Virginia section of the Army Ambulance Service. He was decorated with the Croix de Guerre. Soon after this country entered World War II, he organized the hospital unit, sponsored by the University of Virginia, which became the Eighth Evacuation Hospital. Dr. Blackford served as its Chief of Medicine for more than thirty months in North Africa and Italy. Dr. Blackford was decorated with the Legion of Merit and the Medal of French Morocco. He was released from active duty at the end of the War with the rank of Colonel.

In August, 1927, he married Miss Lydia Fishburn who survives. His son, Staige D. Blackford, Jr., is a student at the University of Virginia. His daughter, Linda Harper Blackford, is a student at St. Anne's School.

As an educator and as a soldier in two wars, his contributions to the University, the State, and the Country he loved, were outstanding. But more remarkable than his tangible accomplishments was his unique personality. His unusual charm, wit, and searching mind, made him a peerless companion. His frankness and intellectual honesty made him a valued critic. His wide vision made him a trusted counsellor. His humanity, kindness, and unusual personal magnetism endeared him to many. Certainly, few people have been considered a "best friend" by so many. To them his untimely death has brought a feeling of genuine sorrow and irreplaceable personal loss.

Offered by the Committee for the minutes of the Albemarle Medical Society:

OSCAR SWINEFORD, JR.
BYRD S. LEAVELL
H. B. MULHOLLAND
J. B. TWYMAN

Resolutions on Dr. Hill.

At a meeting of the Petersburg Medical Faculty held August 8th, the following resolutions were unanimously adopted:

WHEREAS it has pleased our Heavenly Father in His infinite wisdom to remove from our midst our friend and co-worker, Dr. Phillip L. Hill,

BE IT RESOLVED: First, that we deeply appreciated Dr. Hill as a man, citizen and physician; Second, that we deeply deplore our loss; Third, that we extend our sympathy to his family; and Fourth, that a copy of these resolutions be published in the VIRGINIA MEDICAL MONTHLY, the public press of Richmond and the *Progress-Index,* also a copy to be spread on the minutes of the Petersburg Medical Faculty.

J. BOLLING JONES
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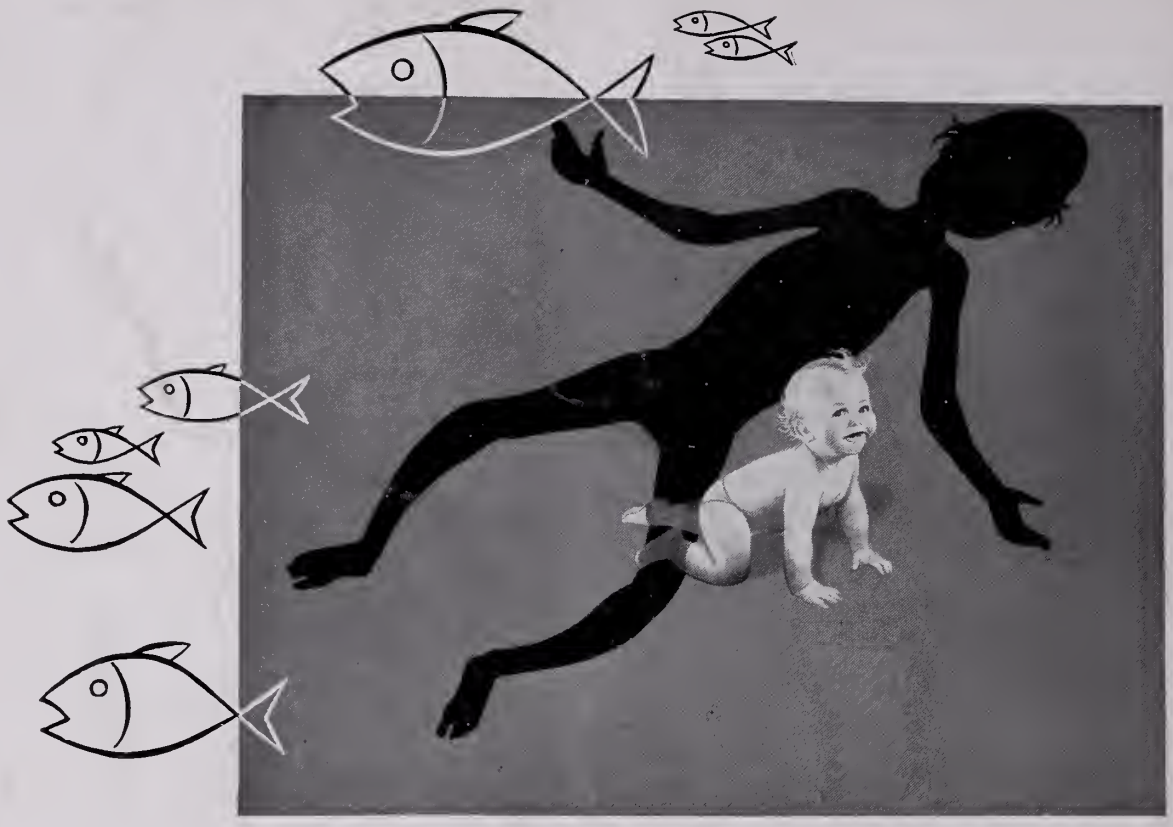

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CONTENTS

Guest Editorial. William R. Jordan, M.D., Richmond, Va.--- 557

The Future of Medicine in Virginia. M. Pierce Rucker, M.D., Richmond, Va. ---------- 559

The Advantages and Limitations of Hormone Therapy in Benign and Malignant Prostatism. Linwood D. Keyser, M.D., Roanoke, Va. ---------- 564

Meningitis in Infancy. Wm. B. McIlwaine III, M.D., and Herman Farber, M.D., Petersburg, Va. ---------- 574

Pre-Operative Study of the Malformed Nose. Wm. Lawrence Gatewood, M.D., Richmond, Va. ---------- 579

Etiological Factors in Pancreatitis. John B. Floyd, Jr., M.D., Lexington, Ky. ---------- 583

Optochiasmatic Arachnoiditis Report of a Case. Morgan B. Raiford, M.D., M.Sc., (Med), Atlanta, Ga. ---------- 586

The Treatment of Bacterial Endocarditis: Review of Twelve Cases. Robert K. Williams, M.D., Baltimore, Md., and Kinloch Nelson, M.D., Richmond, Va. ---------- 589

The Treatment of Post Thrombophlebitic Sequelae in the Lower Extremities. Eugene L. Lowenberg, M.D., F.A.C.S., Norfolk, Va. ---------- 594

Continued on page 6.

November, 1949

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GUEST EDITORIAL

The Problem of Diabetes

"OF all the common diseases diabetes goes undiagnosed most often and this in spite of the fact that no elaborate laboratory procedure, no extensive study and no expensive equipment are needed to make this diagnosis." A professor of medicine made this remark to me just recently.

It is amazing how often and how long a patient can suffer with diabetes before the diagnosis is made. It is not uncommon to see the disease progress to its final stage of coma without being diagnosed. Even more common is the patient, who has been treated for diabetes and who has remained in good health, only to fall sick two or three years later without diabetes being suspected as the cause of his new illness. At times the correct diagnosis is made only because the patient is admitted to a hospital where in the course of time the routine laboratory work discloses the diagnosis which until then has not been considered. Even in the modern hospital an unconscious patient may stay there for hours in diabetic coma without treatment until the laboratory reports the routine urinalysis. This is especially astonishing in view of the fact that a simple urine test costing less than five cents and requiring less than five minutes will yield the diagnosis in the majority of diabetics. Of course, such an omission in diagnosis of the really sick person is rare compared to the less acutely ill person. In the latter, the routine urinalysis may be taken long after the patient has taken food and shows no sugar. Remembering this, we should make an effort to examine the postprandial urine and take the blood sugar an hour after a real meal rather than after the patient has fasted.

In Dr. Joslin's home town of Oxford, Massachusetts, a survey was made of about 75% of the inhabitants. Approximately as many unknown diabetics were detected as those in whom the diagnosis had already been made. The conclusion one may draw is that, for every diabetic we treat, there is another who has not been discovered and who can obtain no such benefit. This diagnostic omission has probably been a factor in the Federal government's desire to carry on such surveys. One such survey is now being planned for Richmond. If the doctors of the State will solve this problem themselves, there probably will be less governmental activity of this sort. The American Diabetes Association has instituted a case finding program which has brought to light many an unknown diabetic, and similar private effort should be encouraged.

Other than the above, the most neglected phase of the handling of this disease in Virginia seems to be inadequate training of these patients. The son of a former patient of mine stated the other day that the last twelve years of his father's life could have been quite different and less burdensome if he had known at the onset of his diabetes what he learned after ten years of his disease. With no treatment or poor treatment their life expectancy will be cut by 67%. With our best present treatment there is very little increase in mortality rate. Many thousands of years of healthy human life probably are being wasted in Virginia for failure to utilize an available therapy. There are hospital beds where these diabetics can be treated and are being

treated in large numbers. There is no diabetic service where proper training and treatment are given and coordinated. Probably more hospital beds are unnecessarily wasted on diabetics than anyone realizes. Many days or even weeks are spent in the hospital today by diabetics who could have avoided this if they had known and realized the difference between following a lackadaisical treatment rather than a relatively easy but definite and continuous proper treatment.

Think what it would mean if every new diabetic went out after the initial discovery of his disease with a thorough knowledge of his problems and how to handle them! Instead of disturbing his doctor for a small boil, or a temporary digestive upset, or a bad cold, he would know how to handle himself to avoid the aggravation of the diabetes and of the other trivial condition to the point where serious illness results. He would know how to alter his diet and insulin dosage to the slight degree necessary to take care of such trivial upsets. More important still, he would recognize the symptoms that are serious, consult his doctor promptly, and thus prevent a serious or even fatal condition. The man who picked a small pimple, watched it enlarge, drain, and spread and progress to the stage of septicemia and diabetic acidosis and death could have prevented all of this easily by keeping his sugar controlled or notifying his doctor of its uncontrol in ample time to have prevented this outcome.

With the new hospitals being built and planned in Richmond and other towns in Virginia, it is appropriate that we consider a service where diabetics can be admitted and trained at the time of the discovery of their disease to avoid the pitfalls mentioned. Such a service need not be complicated nor expensive. A nurse especially trained and interested in diabetes should be in charge and she and the doctors who have patients there could give lectures and, when necessary, personal instruction to the patients each week as is done by Joslin and others throughout the country.

At the meeting of the Medical Society of Virginia at Old Point Comfort last month the Clinical Society of the Virginia Diabetes Association was formed. The aim of this group, which is composed of practitioners from various parts of the State, is to improve the diagnostic and therapeutic results in the people of this State. Any and all doctors are asked to aid in this venture in any way they wish by becoming members, by giving suggestions, and by following such procedure best suited to accomplish this goal. This seems a suitable effort in combating one of the ten major causes of death in Virginia.

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THE FUTURE OF MEDICINE IN VIRGINIA

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Richmond, Virginia.

The presidency of the Medical Society of Virginia is a great honor. Recently it has also gotten to be a big job. I am grateful for this evidence of your esteem and for the privilege of serving you at this critical time.

The November election has been variously interpreted. It has been called a mandate for compulsory health insurance. It certainly created a serious situation for medicine. Evidently, the people did not know what excellent treatment they were getting. Fortunately, however, enough Senators and Representatives did know. To quote from a speech of the Hon. Lester C. Hunt before the United States Senate, August 16, 1949, the 189,000 doctors (in the United States) are "the best trained, most skillful doctors in all the world at any time in all the world's history, doctors who have made this Nation the healthiest of all Nations. Our death rate is the lowest. Our life expectancy has risen from 35 years, when we established our Government, to 67 years—the longest life expectancy of any people on the face of the earth. Our working men lose from illness an average of only eight days a year as compared to 28 days only 49 years ago, at the turn of the Century. That is approximately one-half the days lost from work a year because of illness in England and other countries." The trouble is that the people do not know this. The Medical Society of Virginia has cooperated wholeheartedly with the American Medical Association in bringing this message to the people. It has established the most cordial relations with our representatives in Washington and it has had no small part in defeating Federal legislation that would have been detrimental to the present high standards of medical practice. The people are beginning to realize that this is not just a doctor's fight, but theirs as well. This was demonstrated by the recent decisive defeat of the President's reorganization plan No. 1. It should be remembered that Senator Byrd and Senator Robertson not only voted against this measure but *worked* against it. Had the Senate not defeated this bill, Mr. Ewing would now be a member of the Cabinet and Socialized Medicine would surely have followed.

Senator Robertson also took an active part in our Public Relations Conference in January and arranged for the meeting with our Congressmen in May. In this connection, I wish to take this opportunity to commend the work of our Director of Public Relations, Mr. Henry Johnson, who has gone about the State day and night, meeting with various lay and professional groups, explaining what the medical profession is doing for the people.

This is an opportune time to discuss the future of medicine in Virginia. Let us go back a bit and pick up the trends. When I began to study medicine fifty years ago, a revolution in medical education was beginning. The Medical College of Virginia had just adopted a four year course. As a matter of fact they were still accepting matriculations on the three year plan, provided the student had a college degree. The teaching was largely didactic. Even at Johns Hopkins, which several years previously had begun to teach medicine with emphasis on clinical instruction, the student had to get most of his clinical experience in obstetrics in the homes of the poor. There were no internships for many of the graduates. Surgery was chiefly abdominal surgery and most of that consisted of removing the appendix. "Blood work" consisted of counting the red and white cells and searching for malarial parasites in blood obtained from pricking the finger or the lobe of the ear. Rufus Cole began making blood cultures and Cooke and Boggs laid the foundation of clinical sphygmomanometry in my student days. Blood transfusions, or indeed any intravenous medication, was unknown. That hookworm existed in this country was discovered when I was a medical student but the extent of the infestation was undreamed of. Typhoid fever was a matter of course every summer and a doctor who did not have fifteen to twenty cases had no practice at all. One still heard such diagnoses as typhomalaria. Very few doctors relied on finding the plasmodium malariae to make a diagnosis. Some used the therapeutic test with quinine to differentiate malaria from typhoid fever and many

*Address of the President at the annual meeting of the Medical Society of Virginia at Chamberlin Hotel, Old Point Comfort, Fort Monroe, Va.

could diagnose typhoid fever by the smell. The disease was thought to have a distinctive odor. Infantile diarrhea was as prevalent as typhoid fever and an infant that survived the second summer was considered to have unusual stamina. The treatment of diphtheria was on a satisfactory basis provided one made the diagnosis early. The picture of a baby almost choking to death with croup was a common one. There was no such thing as prophylaxis.

The trained nurse was even scarcer then than she is today and the doctor had to demonstrate to the mother how to give an enema or to sterilize a bottle or mix a formula. There were, of course, measles, mumps and whooping cough, but they did not make so much impression on the young doctor because their nursing care was simpler. There were no full time health officers, and the function of the health department was principally the establishment of quarantines and the fumigation of premises. About all the doctor could do with certainty was to prevent smallpox, provided he could persuade the patient to be vaccinated; cure malaria with quinine, provided he could make the patient take the medicine long enough and repeat the treatment the following spring; and cure syphilis with mercury and iodides if he could control the patient for two years. He did not have a laboratory diagnosis for syphilis but had to rely on a clinical diagnosis. The surgeon could cure appendicitis. There was no orthopedic surgery to speak of. X-rays were used only to diagnose broken bones, and there was no radium. Life expectancy was less than 40 years.

Now the medical student gets four years of laboratory and clinical training in the medical school and spends from one to six years in a hospital. The Health Department, which was then practically non-existent, now has a health officer and a team of health nurses in almost every county. The State Health Department now spends nearly three million dollars protecting our health. Then, the citizens of Richmond drank James River water raw. Now, the mud and the bacteria are removed and the Ph is kept constant at 8.4. Milk is inspected from the dairy farm to the delivery wagon. It is pasteurized and safe (and expensive). Typhoid fever has disappeared and the babies go through their second summers without mishap. Surgery of the brain and of the chest is as common as was abdominal surgery fifty years ago. The blood is subjected to all sorts of chemical and serological tests. Blood transfusions and intravenous therapy are so common that one marvels that the young doctor can find so many superficial veins. Hookworm disease has been eradicated for so long that it has been forgotten. A single case of typhoid fever makes the front page of the newspapers. The doctor of today has specific cures for most of the infectious diseases and a six day cure for syphilis and a single shot cure for gonorrhoea. There are efficient vaccines and inoculations against many of the infectious diseases. With the exception of poliomyelitis, the epidemic diseases have been conquered. Life expectancy is now more than 67 years.

Tuberculosis is no longer first among the causes of death, but is a poor seventh on the list. The past few decades have been an era of specialization. This has undoubtedly led to a tremendous increase in knowledge, but it has also increased the cost of medical care. The public had begun to think that only the specialist could properly care for the sick. The pendulum has already begun to swing back to a more sensible opinion. The family physician, or general practitioner, has an important place in medicine and can take care of most situations demanding medical care better than the specialist and at less cost.

Specialization has taken a new turn. Each major disease has an association or foundation back of it that is busy with the problems of that particular disease. These are composed of medical as well as lay persons. The oldest of such groups is the American Anti-Tuberculosis Society which blazed the way in education of the public in health matters. The American Cancer Society is engaged in a nation wide campaign for routine health examinations as a means of detecting cancer early when it is amenable to treatment. It encourages research and provides facilities for diagnosis and treatment for those who need it. The American Heart Association has done valuable work in standardizing the classification of that disease. The group that is interested in rheumatic fever is developing the care of these children as a community project, with special care of the disease in foster homes and provision for schooling at the bedside and manual training adapted to the patient's physical needs. The aim is to protect these children from recurrences and at the same time help them to find a useful place in society. Everyone knows about the

Infantile Paralysis Foundation and its annual mile of dimes. The Chronic Arthritis Society is less well known. Just recently the Society for the Study of Diabetes has sponsored a Diabetes Week with emphasis on early diagnosis. There are a million unrecognized diabetics in the United States and Canada and statistics show that complications in the unknown diabetic are fifteen times more fatal than complications in the recognized diabetic.

The newest of all medical societies, The American Academy of General Practice, introduces a new principle, i.e., membership for a limited period of time and renewable only upon continued postgraduate study. The certificate is granted for three years. At the end of each three year period the fellow must produce evidence of having taken 150 hours of satisfactory postgraduate work or the certificate will not be renewed.

Thus medicine faces the future with better trained personnel than at any time in its history and is taking steps to insure its continued improvement. On the other hand, it faces more and different problems. The population is becoming decidedly older. It is estimated that by 1960, 9.1 per cent of the population will be 65 years old or older. A new branch of medicine, geriatrics, has arisen. Old folks present entirely different problems, but the problems are not insurmountable. With anesthesia developed especially for the aged, operations are being performed successfully that were not thought possible ten years ago. More study must be given to developing suitable and convenient facilities for social, recreational and cultural activities that are within the physical capacity of older people. If we are to have old age we must make it endurable.

A glance at the ten leading causes of death in 1900 and in 1946 shows where the future problems lie. In 1900 tuberculosis had a death rate of 195 per 100,000 population, pneumonia a rate of 176, diarrhea and enteritis a rate of 140, diseases of the heart 137, nephritis 89, accidents and violence 88, cerebral hemorrhage 77, cancer 64, bronchitis 45 and diphtheria 40. In 1946, heart disease was the leading cause of death with a rate of 307, cancer was second with a rate of 130, accidents and violence had a rate of 88, cerebral hemorrhage 78, nephritis 58, pneumonia 38, tuberculosis 36, premature birth 29, diabetes 25, and arteriosclerosis 17.

In 1900 the three leading causes of death were bacterial diseases and five of the ten leading causes of death belonged in that class. In 1946 only two bacterial diseases were in the ten leading causes of death and they ranked sixth and seventh on the list.

While bacterial diseases have been practically conquered, the virus and Rickettsia diseases present an almost unexplored field. We know the size and shape of many of these ultra microscopical bodies but nothing of their structure. Many have extremely long incubation periods, notably hydrophobia and infectious hepatitis. Some are transmitted by inadequately sterilized syringes, some by the bite of animals, some by insects and many in ways that are as yet unknown. Rocky Mountain spotted fever, a disease that was believed to be confined to certain valleys of the Rocky Mountains, is now found to be more prevalent in Virginia than anywhere else in the United States. Fortunately, we now have two specific cures for it and, in addition, means of inducing a short lived immunity. The most encouraging feature of these diseases is that many of them confer a lasting immunity. Some of the most brilliant achievements in medicine have been in connection with these diseases, even long before there was any knowledge of viruses. Jenner's experiments with cowpox, Pasteur's work with rabies, and Walter Reed's work with yellow fever are unforgettable examples.

More and more of the doctor's time must be directed to the degenerative diseases. The obstetrician has a problem in the premature infant. Substantial progress is being made with two of the commoner causes of prematurity, i.e., toxemia of pregnancy and placenta previa. With the more general acceptance of prenatal care, serious cases of toxemia of pregnancy are being prevented. More recently, new ideas in the treatment of placenta previa have been advanced. It used to be taught that a patient with placenta previa should be delivered as soon as the diagnosis was made. The result was a high fetal mortality on account of prematurity. Now some clinics are advocating letting these patients alone until they reach term and when such a course has been followed, there has been no increase in the maternal mortality, and a reduction in the fetal mortality from 30 or more per cent to 6 per cent. Newer work with endocrine therapy indicates that premature births from other causes may be prevented.

The pediatrician of the future will practice

chiefly immunology and dietetics. Already he has practically eliminated diphtheria, scarlet fever, and whooping cough from his practice and, before he turns his patients over to the other practitioners, he will have immunized them against tetanus and typhoid fever. When the public forgets these diseases, he will then have a major task of continuous education or the public will become careless. Just recently, for instance, in England they have repealed the compulsory vaccination law.

As diseases become more chronic and as the population becomes more industrialized, our diagnoses must be keyed to early recognition of the preclinical phases of disease and our treatment to rehabilitation. We must become health conscious. Our examinations and laboratory tests must be directed more and more to the study of the reserves of the various organs. We will not be so much interested in heart murmurs, arrhythmias etc., as in how much margin of safety a given heart has. Such tests as the sugar tolerance test will be more in use than the test for the presence of glucose in the urine. The mother who has an over-sized baby will be warned of the possibility of having diabetes in the next four or five years, and she will be advised to avoid weight gain herself. Our therapy must become preventive on the one hand, and on the other hand, it must be extended to include rehabilitation. If a patient loses an arm, a leg or an eye in an accident, it is recognized that the job is only half done when he is cured of the immediate effects of the accident. He must be restored to a useful place in society where he can be happy. Perhaps he will need some plastic surgery and perhaps he will have to be taught a new trade or handicraft. He will need a social worker and an industrial instructor or a psychologist in addition to his strictly medical or surgical attendants. This need is already recognized in case of accidents. The same position is being taken in regard to chronic and crippling diseases. A child with rheumatic fever has a poor outlook if treated only medically, but if a team of social workers, educators etc., take charge of him, and teach him how to take care of himself and to make a living by some means within the capacity of his heart, he can become a useful citizen. The hypertrophic arthritis patient will need a lot of physiotherapy with his ordinary therapy, but his educational needs will not be so great as those of the rheumatic fever patient. It seems quite likely that the availability of new drugs will soon make the last sentence obsolete. The cured tuberculosis patient needs placement advice and supervision or his cure may not last. The patient with the type of heart disease that now kills most of our people needs vocational and recreational advice as much as, or even more than, medical advice. The cure of cancer is probably right around the corner, but until it is discovered much can be done to reduce its ravages by early diagnosis and treatment. The only way to diagnose cancer in its early and curative stages is to *look* for it and this should be done systematically and periodically.

Finally, with a constantly aging population with nearly ten per cent at the retiring age, the doctor must be an expert on hobbies. Many men and women have gone through life without learning how to play. When they are no longer able to work they have nothing to interest them. The doctor must be able to fit them with a suitable hobby.

What about atomic energy? Much has been said about the destructive effects of this new power. At first we were told that everyone in and about Hiroshima and Nagasaki was killed. Later we were told so much nuclear radiation is released when a bomb explodes that it is unsafe for rescue workers to go into the bombed areas. The very water and soil is activated and plants and animals growing in such environs can concentrate many radioisotopes with long half life. Now it seems that more than 200,000 of Hiroshima's 300,000 inhabitants survived. Thousands who did not succumb immediately to blast and thermal injury presented new and bizarre types of radiation sickness. Some were deprived completely of hair, some developed mahogany pigmentation and others were depigmented. Some developed intractable intestinal trouble, and others had all of their bone marrow destroyed and died as soon as they used up all the blood cells they already had, a matter of a few weeks. The full effect on the gonads can not be determined for several generations.

There is one comforting thought about atomic energy, and that is that man has a healthy respect for it and so far has devised means of handling it with safety. Until recently there had been no report of anyone working at Oak Ridge or other experimental laboratories having been injured. This is in marked contrast to the early experience with Roentgen rays. Many of the earlier

experimenters with x-rays lost fingers, ears or developed incurable ulcers. Some even lost their lives. Only trained workers are allowed to handle the atomic material.

With the great variety of ionized atoms, the possibility for study is unbelievable. As yet, medicine has used it only in investigation. An atom such as sodium or iodine with a short half life is ionized and such tagged atoms are traced in the various tissues of the body. There has been some experimentation with cancer, but nothing better than radium or x-ray has been found.

The doctor of the future will be less of an individualist than he has been in the past. More people are interested and anxious to help in his work than ever before. He will have more and probably adequate facilities and nursing help for his work. While his problems are becoming more complex, he will have more skilled help and more complicated machinery with which to solve them. Financial aid for research problems is becoming more readily available. Even his therapy is becoming a matter of team work. The parson and the priest have always been available in helping the doctor solve family problems. Now he has the social worker, the marriage counsel, or the vocational planner and other personnel of the Educational Department, the physiotherapist and the psychologist.

The accepted technic of good prophecy is to lay down bounds within which the prophecy will act. If such qualifications are not met the prophecy is off. The storm now passing over the Rocky Mountains will bring snow to the Atlantic Seaboard provided a high pressure area does not develop over the Gulf of Mexico. For medicine the big "if" is Federal control. In no country has bureaucratic medicine prospered. When it became firmly established in Germany, the quality of medicine declined so markedly that Germany lost her preeminence in medicine. When I was there in 1905 the beginning of the decline was noticeable. There was a brutality in the treatment of patients which I, in my ignorance, attributed to the docility of the German peasant and the overbearing nature of the German ruling classes. I still have a mental picture of eight or ten patients in the Leipzig clinic who had been sitting on a hard bench with heads bent back and to the right, so as to accommodate a rigid tube in the esophagus. The esophagoscopes had been introduced by an assistant and the patients were waiting for the Herr Professor to glance down their gullets—the quintessence of bureaucratic medicine.

The same system was put into operation in England on July 5, 1948. Already obstetric and dental anesthesia and endocrine therapy have been banned because the authorities consider them to be unnecessary. By the end of the year the costs had so far exceeded the estimated costs that editorials in the newspapers were discussing the need of devaluating the pound sterling.

In the past, Virginians like William Baynham, Jesse Bennett, Ephraim McDowell, John Peter Mettauer, Thomas A. Emmett, Lewis G. Pedigo, Hugh Cumming, Henry Rose Carter and Walter Reed have made worthwhile and even epoch-making advances in medicine and surgery. The future holds bright promises for continuing such work in ever larger fields—if the Congress does not put the blight of Federalized medicine upon us.

Drugs Cut Death Rate.

Modern methods of treatment have reduced the mortality rate of myasthenia gravis to about 10 per cent, according to two doctors from the University of Texas School of Medicine, Galveston. In this rare disease, the cause of which baffles doctors, the victim's muscles progressively become weaker. The muscles most frequently affected are those concerned with movements near the eyes, with resulting squinting and "seeing double." Generalized muscular weakness also occurs. Untreated, the disease runs a fatal course in 50 to 75 per cent of cases in a few years, Drs. Charles T. Stone and J. Alfred Rider write in the September 10 *Journal of the American Medical Association.*

Drugs, principally neostigmine and tetraethyl pyrophosphate, give complete relief in some cases and have greatly reduced the mortality rate of the disease, which is now probably about 10 per cent.

THE ADVANTAGES AND LIMITATIONS OF HORMONE THERAPY IN BENIGN AND MALIGNANT PROSTATISM*

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While the prostate itself elaborates no specific hormone, it is the object of an interplay of endocrine influences which have a far-reaching significance. The testes, the pituitary and adrenals affect especially the development, growth and size of the prostate gland. Also they seem to have a definite but not too clearly defined influence on its regressive changes in senescence, its hyperplastic manifestations and to modify the growth and development of its neoplastic diseases.

THE TESTICULAR HORMONE

Following McGhee's isolation of an active lipoid soluble male sex hormone from the bull's testes in 1927, Butenandt, Ruzicka and others isolated androsterone, dehydroandrosterone and testosterone. Subsequently the relation of these substances to cholesterol and their synthesis from this chemical was established. It is now believed that testosterone is the true male hormone, androsterone and dehydroandrosterone being less active metabolic derivatives found in urine.

It had been known that castration in lower animals was followed by atrophy of the prostate and seminal vesicles. When androsterone was isolated, it was found by biologic assay that virility, sex vigor and the occurrence of prostatic hypertrophy in later life appeared concomitantly with a diminution of androsterone in the urine. Moore and Miller noted an especial decrease in older men with prostatic hypertrophy. Hence the initial but somewhat erroneous assumption was made that these phenomena of senescence were due to a decrease in male sex hormone function.

THE PITUITARY HORMONE

Hoskins in 1911 had developed the concept that the gonadotrophic activity of the pituitary was normally held in check by the gonads. Smith and Engle showed that hypophysectomy in animals caused atrophy of the prostate, and Walsh, Cuyler and McCullagh found that such post-hypophysectomy prostatic atrophy in rats could be prevented by daily administration of male sex hormones. Also it was noted by Korenchevsky, Nelson, Gallagher and others that castration was followed by alteration of secondary sex characteristics, hypertrophy of the pituitary with the formation of peculiar vacuolated cells in the basophilic elements (the so-called signet cells or castration cells) and hypertrophy of the adrenals. Such changes could be prevented by administration of male hormone in large amounts or of lesser amounts of male hormone and extremely small amounts of estrogen.

From female endocrinology it had been established that there are two gonadotrophic hormones in the anterior pituitary gland, one producing follicle stimulation, the other producing luteinization. In the male evidence is accumulating to show that the follicle stimulating hormone activates the seminiferous tubules to produce sperm, while the luteinizing pituitary factor stimulates the interstitial cells of Leydig to elaborate the androgenic hormone, which in turn stimulates the development of secondary sex characteristics.

Following the work of Meyers, Vidgoff and Hunter who somewhat paradoxically produced atrophy of the prostate by feeding rats with desiccated beef testes, Lower and McCullagh, from experimental evidence, developed the concept that the testis has two major hormones. One, "inhibin", a water soluble hormone, developed in the tubules or the germinal cells, inhibits or depresses the gonadotrophic activity of the pituitary from over-stimulating the interstitial cells of the testis. The other, "androitin", is produced by the interstitial cells of the testis. Androitin closely related to androsterone and testosterone acts as a sex stimulant and in excess produces prostatic hypertrophy. The Lower theory simply stated is that after middle age regressive changes in the germinal cells of the testis lessen the elaboration of the pituitary depressing inhibin. The over-active pituitary then stimulates an over-production of so-called androitin (male hormone) with consequent prostatic hypertrophy. It had been noted before that parenteral injection of the anterior-pituitary-like principle of pregnancy urine would produce prostatic enlargement in cas-

*Presented before the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1948.

trated rats and monkeys. Whether or not this enlargement is similar to prostatic hypertrophy in man is a matter of dispute. However, the Lower theory has not been accepted. There is neither enlargement of the pituitary in benign prostatic hypertrophy in man nor are histologic changes noted; there is no prostatic hypertrophy in teratomas of the testis where large amounts of circulating substances similar to pituitary gonadotrophic hormone are present; there is not a consistent finding of increased urinary excretion of significant amounts of either gonadotrophic substances, male hormone, or estrogen in patients with prostatic hypertrophy.

Estrogen or female sex hormone now enters the picture. Zuckerman showed that male and estrogenic hormone are both elaborated in the male organism. He felt that they are balanced in such proportion that the estrogenic powers of the female sex hormone are ordinarily inhibited. Senescence disturbs this balance. Wugmeister in 1937 advanced the idea that the female hormone diminishes in later life in both male and female whose organisms tend toward "hypervirilation". The anterior pituitary, being no longer inhibited by estrogen, overstimulates the testis to elaborate an excess of androgen and thus stimulates the genital apparatus to hypertrophy.

Further concepts of estrogen-androgen imbalance as a cause of prostatic and genital changes were numerous. Zuckerman and Parkes produced prostatic enlargement in castrate monkeys by estrone injection and counteracted it with injections of testosterone. The enlargement is due to an increase in the fibromuscular elements, with hyperplasia and metaplasia of the ejaculatory ducts, prostatic collecting tubules, the epithelium of the urethra and vagina masculina. The epithelium of the true prostatic glands did not change. Geschickter by injecting testosterone restored the prostatic epithelium and produced hypertrophy of the seminal vesicles in monkeys whose prostates had undergone atrophy from castration. Lacassagne, Burrows and others demonstrated that administration of estrogens to mice produced metaplasia of the prostatic epithelium (a common finding in prostatic hypertrophy). Von Cappellan, Burrows and Zuckerman concluded that large amounts of estrogen acting during presenility would cause enlargement of the prostate. If true, large doses of androgen should prevent and relieve prostatic hypertrophy. However, Moore, McClellan and others found that injection of testosterone in large doses resulted in no significant restoration of the involuted prostate of presenility or in the histologic appearance of the benign hypertrophied prostate. While injection of estradiol benzoate produces conspicuous alteration in the urethral and ductal epithelium, there is little if any change in the tissues of benign hypertrophy.

However, Huggins has demonstrated that injection of testosterone restored not only the size but the secretory activity of atrophied prostates of dogs following castration.

Again showing how conflicting the evidence may be when different workers deal with different species under varying conditions, we may cite Korenchevsky and Dennison who produced prostatic atrophy in normal rats with estrone and prostatic hypertrophy in castrated rats with the same female hormone; Deming and coworkers' demonstration of prostatic hyperplasia in a male macaque monkey with estrone; a converse observation of hypertrophy of the rudimentary prostatic analogue in female mice with testosterone but not with estrone. This evidence supports the view that over-balance of female hormone in males and of male hormone in females might produce hypertrophy of the prostate or of its contra-sexual homologue in certain animals. Wattenberg and Moore note that the utricle and prostatic urethra are homologous to the female vagina. They found that the clinical use of estrogens produced aquamous hyperplasia of these structures, such as have been noted experimentally in mice and monkeys.

In general, the experimental evidence of hormonal relationship to prostatic enlargement is confusing and highly controversial. It has been of value, however, in suggesting certain avenues of approach to the clinical use of hormones in therapy.

The Nature of Prostatic Enlargement

Deming and his coworkers from histologic studies contend that the components of the prostate gland responsible for benign enlargement are the muscle fibres (originally from the lower Mullerian tube) and the prostatic ducts. The process begins as a solid fibromuscular mass of Mullerian tissue in the muscular wall of the prostatic urethra. This mass stimulates an epithelial proliferation of the ducts. The primary tumor is then invaded by the duct epithelium which forms glandular tissue and grows

more rapidly than the stroma. Hence the mass may appear wholly glandular. The glands of Albarran and the glands of the posterior and lateral lobes are not involved in the early phases of development. Thus benign enlargement is a hyperplasia and not a hypertrophy of tissue. They compare this with the growth of uterine myomata and note that hypothetically they have a common anlage. The hyperplastic growth causes compression atrophy of normal prostatic tissue which is displaced laterally by the growing adenomata. These authors contend that hormone therapy does not affect the hyperplastic tissue and does not cause regressive changes in the normal prostatic tissue which is already atrophied by compression.

The Incidence of Benign and Malignant Prostatism

In 35% to 50% of men over 50 years some hyperplasia of the prostate is noted. A variable number—from 20% to 30% of these—will require treatment for obstruction. The incidence of cancer as a histologic finding is impressive. In 1935 Rich noted 41 cases of prostatic cancer in 252 autopsies in men over 50 years (16%). Moore in 1935 observed cancer in 262 prostates from patients; none under 44 years; 17% from 41-50 yrs.; 14% from 51-60 yrs.; 23% from 61-70 yrs.; 21% from 71-80 yrs.; and 29% from 81-90 yrs. Baron and Angrist found histologic evidence of cancer (occult adenocarcinoma) in 46% of 50 prostates studied by serial sections. The prostates were from unselected consecutive autopsies in men over 50 yrs. Metastases were not noted. In general the incidence of hypertrophy is three times that of cancer.

Carcinoma of the prostate is frequently associated with benign hypertrophy but probably arises independently of it. In about 75% of the cases the disease begins in the posterior lobe which is almost never the seat of benign hyperplasia. Adenocarcinoma, medullary, scirrhus and even squamous celled varieties are found and may frequently be associated in the same gland. The growth of prostatic cancer is insidious and variable. Certainly we do not see carcinoma of the prostate clinically in the same degree of frequency that is noted histologically at autopsy or especially in serial sections of glands removed at autopsy. Sarcomas of the prostate are exceptionally rare. While they may occur at any age, most cases are encountered in youth.

Clinical Use of Hormone Therapy in Benign Prostatism

Male hormone therapy, chiefly testosterone, has been widely used for benign prostatic hypertrophy. Walther and Willoughby reported 15 cases so treated with temporary clinical improvement. Day, Cary, Boland and others reported similar cases which responded clinically to testosterone but no changes in size were noted by cystoscopy or by rectal palpation. Heckel was not impressed with the use of testosterone in prostatic hypertrophy but did find that oligospermia resulted from continued large doses.

On the whole the use of the male hormone has not been satisfactory. It may act at times by inhibiting the pituitary or by stimulating the musculature of the bladder (Kearns) to greater propulsive activity or perhaps by exciting indirectly the adrenal cortex to activate steroidal hormone influence on the prostate. It may also supply an androgenic deficiency, counterbalance an estrogenic excess, thus restoring a theoretical androgen-estrogen imbalance. *It must be remembered in considering the effects of all hormone therapy that benign low grade prostatic obstruction normally is associated with periods of regression.* Some authors find that the effects of testosterone therapy are no better than those achieved in a parallel series of cases when injections of saline are given (Draper). Certainly no specific changes in size of the gland or regressive histologic changes in its tissues by biopsy have been noted.

The use of estrogens in treating benign hypertrophy, however, cannot be dismissed so quickly. With Huggins' introduction of antiandrogenic therapy in prostatic cancer there also arose much popular interest in the hormone therapy of benign hypertrophy. Huggins, Stevens and Hodges subjected 3 patients with benign hypertrophy to castration. This was followed by epithelial atrophy together with gross decrease in the size of the gland as revealed clinically and by biopsy specimens. They felt that as old age approaches there is a decrease in the male hormone, yet enough androgen remains to produce prostatic hypertrophy. However, if this residuum of hormone is eliminated or reduced by castration the prostate will atrophy. Also by the

administration of estrin without castration the remaining male hormone is neutralized and atrophy similar to that produced by castration takes place.

Estrogens, chiefly diethylstilbestrol, have been widely used during the past ten years. Kahle and Maltry, Kittridge, Klein and Newman have noted a fairly high degree of clinical improvement in a variable percentage of cases thus treated. In some instances the size of the prostate noted by cystoscopy and rectal examination was definitely diminished and biopsies showed regressive changes in the prostatic tissue. On the other hand, Pierson, by roentgenographic measurements of the prostate in 13 patients with retention of not over 3 ozs., noted a variable diminution in the size of the prostate averaging about 7 mm. in 10 cases after treatment with daily small doses of stilbestrol. He felt that the shrinkage was not great enough to warrant this therapy except in unusual cases.

Since 1941 I have applied both estrogenic and androgenic hormone treatment to 110 patients with benign prostatism in various degrees. Their ages have varied from 50 to 87 yrs. Sixty-two of these had little residual (none to 3 oz.) but complained of weakening of the stream, frequency, nocturia and dribbling. A variable degree of enlargement by rectum was noted. (It is the prostatic tissue growing into the bladder neck and not that felt bulging into the rectum which gives obstructive symptoms.) In short, the majority of these were borderline prostatics and usually younger men. Estrogen therapy gave clinical relief to about two-thirds of this group of 62. The treatment was frequently combined with massage, diathermia and dilatation of the urethra with sounds. In approximately one-half of the remainder we were not impressed with the treatment but operation was considered unnecessary or refused. The remainder developed sufficient obstructive symptoms to warrant operation at my hands or elsewhere. When estrogen therapy gave favorable response the glands became softer, seemed to be reduced in size and the stream became stronger. While taking the matter of spontaneous remission into consideration, it was felt that in this group of cases estrogen therapy is especially effective in a considerable proportion. In short, the younger the patient, the softer the consistency of the gland, the more likely the relief from estrogen. Hard fibrotic glands and those in arteriosclerotic mentally confused older men respond to such treatment less strikingly and require frequent passage of sounds or even surgery if there is a residual urine of over 3 oz.

The remaining 58 patients were prostatics in advanced stages of obstruction, i.e., with a residual of 3 oz. or more. The results of estrogen therapy, while brilliant and spectacular at times, have not been consistent. In the 58 cases of this type estrogen therapy reduced residual, the blood urea level if elevated was diminished, the stream enlarged and operation has been declined in 38. Some of these patients improved at first but later developed sufficient symptoms and clinical findings to warrant surgery. Nine patients, because of senility, uremia, concomitant fractures or surgical procedures needed at other sites, were subjected to suprapubic cystostomy. After estrogen therapy their sinuses closed and remained closed, the patients voiding well and with little or no residual urine. Another group of patients (about 20 in number) was placed on indwelling urethral catheter drainage and, after estrogen therapy, had such reduction of residual urine, increased force of stream and general well-being that operation was refused. Several of these returned later for operation and others should undoubtedly have done so.

Diethylstilbestrol, a synthetic chemical having estrogenic action, in doses varying from 1 mg. to 20 mg. daily given by mouth or injection has been the drug most used. The dosage is not standardized in the treatment of either benign or malignant prostatism. With the optimum dosage unknown, most authorities fell that larger doses are unnecessary. I usually start with 5 mg. daily and increase or decrease the dose to the patient's tolerance.

The drug has certain hazards, viz., nausea (a very frequent finding), dizziness, edema of the lower extremities, and an erythematous skin rash, at times leading to exfoliative dermatitis. Loss of libido and oligospermia result from large doses and must be considered in treating younger men or older ones who are sexually active. Painful engorged breasts occur in a large proportion of cases on prolonged therapy or with larger dosage. Stopping stilbestrol and administration of testosterone apparently helps to relieve this breast engorgement. However, testosterone does not entirely neutralize estrogen effect nor has the exact quantity of the dosage needed to depress estrogen action been determined. In a small group of cases I have used oreton (tes-

tosterone propionate) alternately with courses of estrogen and at times apparently with good result.

Premarin, estradiol-benzoate and estinyl have been used with variable result when diethylstilbestrol has not been tolerated. It is possible that various estrogens act differently in different individuals according to their individual liver metabolism.

In summary, estrogen or androgen therapy is no substitute for surgery in patients with well developed prostatic obstruction. *The accurate evaluation of hormone therapy becomes most difficult when we remember that prostatism frequently regresses and symptoms subside for long periods of time when local measures such as massage, diathermia, drainage or even no therapy is applied.* Nevertheless, hormone treatment, especially with estrogens, appears to be of value in borderline cases with small residual and soft glands. It may be tried with occasional success in larger obstructive glands. If after one to two weeks treatment no sharply defined and obvious improvement is obtained, resection or prostatectomy is in order.

Recently I have been preparing certain patients with large glands for prostatectomy by a preliminary course of estrogen, if the delay is warranted. At operation the gland has seemed smaller, firmer and perhaps less vascular but I cannot yet speak conclusively on this point.

Certainly the urologist should explain to his patient that estrogen therapy is a trial that, should he get an immediate favorable clinical response, frequent observation with periodic courses of the drug will probably be needed. If the patient's response is not immediately definite and there is no contraindication, he should be submitted to surgery.

Endocrine Therapy in Prostatic Cancer

The application of endocrine therapy by Huggins and Herbst to the treatment of prostatic cancer is one of the outstanding contributions to modern science. It marked the first signal response of malignant disease to chemotherapy. We may state the concepts developed by this work as follows. The histogenesis of prostatic carcinoma is not altogether autonomous. These neoplastic cells are stimulated by androgens from the testis and to a lesser degree from the adrenals. The effort to eliminate or reduce to a mininum this androgen stimulation has been carried out (1) by surgical castration, (2) by castration with x-ray irradiation, (3) by administration of estrogens with or without castration to neutralize or depress androgens, (4) by adrenalectomy or adrenal irradiation to eliminate a secondary source of androgen formation after castration and (5) by pituitary irradiation as a means of suppressing pituitary stimulation of androgen elaboration.

Prostatic cancer cells freed from androgen stimulation undergo retrogressive change. Decrease in size of nuclei, condensation of nuclear chromatin, absence of nucleoli, clearing of the cytoplasm, rupturing of cell membranes with coalescence of vacuoles, with ultimate clustering of pyknotic nuclei and fragments of cells in the center of acinar spaces have been noted (Kahle, Shenken and Burns). All the cells do not die but after a variable period of time they resume a recurrent but frequently decreased activity.

Estrogen inhibits pituitary activity, depresses the germinal epithelium of the testis and, to a variable degree, neutralizes the male hormone or diminishes its elaboration. Excessive estrogen administration may produce carcinoma of the breast in male mice. The possibility of such a result in the human male and female has been suggested.

Significance of Serum Phosphatase

Huggins found that the serum acid phosphatase was usually elevated above the normal (3 to 5 King Armstrong units) in advanced prostatic cancer, especially if bone metastasis is present. The neoplastic epithelium itself showed large amounts of this enzyme as determined by specific staining methods. Acid phosphatase, present in traces in the prostate of infants, is found in large amounts in normal adult and hypertrophic glands. It is even more abundant in prostatic cancer cells. Grollman holds that acid phosphatase in prostatic cancer does not enter the circulation in detectable amounts until the neoplasm breaks through the capsule with local infiltration or distant metastasis. Then the serum acid phosphatase becomes elevated in as high as 85% of patients (Sullivan, Gutman and Gutman). In a fair number of patients, however, with extensively disseminated lesions this enzyme remains normal in the blood (Alyea and Nesbit). Febrile reactions may temporarily reduce elevated serum acid phosphatase even in advanced cancer.

Castration is usually followed by a sharp drop of the elevated serum acid phosphatase within a

week. This occurs more slowly (in 2 to 3 weeks) after estrogen administration. Failure of the elevated serum acid phosphatase to fall after castration or estrogen administration is usually accompanied by no clinical improvement. Furthermore, it is a sign that the patient will not respond to antiandrogenic therapy and that the cancer cells have become autonomous and are no longer androgen dependent.

Serum alkaline phosphatase is frequently elevated above normal (6 to 10 King Armstrong units) in prostatic cancer. It reflects activity of bone around tumor metastasis. Patients with bone metastasis have an increase in level of serum alkaline phosphatase in about one-third of the cases. In a large number following castration there is a sharp rise followed by a gradual decline in the level of this enzyme to normal, reflecting a decreased metastatic activity with bone healing. The serum alkaline phosphatase is less likely to rise in patients treated with estrogens.

Elevated serum acid phosphatase has come to be regarded as evidence of bone metastasis and its rise or fall is interpreted by many authors as an index of response to endocrine treatment. Its rapid or progressive rise is an unfavorable sign. Huggins felt that failure of the serum acid phosphatase level to fall after orchiectomy may be due to extratesticular androgen formation probably in the adrenal cortex and that this feature was an indication for estrogen therapy. In many of these cases it is also probable that the tumor cells have become androgen independent. Contrary to these views, Nesbit feels that the serum acid phosphatase is not a reliable index of metastatic activity.

Sedimentation Rate of Erythrocytes

Numerous authors have called attention to the frequent finding of accelerated erythrocyte sedimentation rate in malignant disease especially when metastatic. Boylan and Tillisch and others have studied the matter in relation to prostatic cancer and feel that the sedimentation rate should be taken into consideration with acid phosphatase levels in evaluating the activity of this disease.

The Significance of the 17 Ketosteroids

These substances are steroids having a ketone group at the 17th carbon atom. They are produced in the testis and adrenal cortex and their quantitative estimation in the urine is regarded as an index of the androgenic activity of these organs. They include androsterone and related compounds as well as estrone. The estrone can be eliminated by treatment with alkali leaving the urinary androgens which can be further divided into alpha and beta fractions, the latter being precipitated by digitonin.

Several authors have studied the excretion of 17 ketosteroids in prostatic disease, but Frame and Jewett, and Satterthwaite, Chute and others found that there were insignificant differences in the daily excretion of these steroids in the urine of prostatic cancer patients and in that of normal men in the same age group. Huggins and Scott found in four cases of prostatic cancer treated by adrenalectomy after castration as a further antiandrogenic regimen that the 17 ketosteroids practically disappeared.

The general opinion is held at present that 17 ketosteroid determination is not of great prognostic value in treating prostatic disease. Castration decreases estrogen urinary excretion and some authors state that it causes a late rise in urinary androgens (17 ketosteroids) from adrenal activity. Likewise, the pituitary gonadotrophic hormone excretion in the urine rises following castration. Estrogen (stilbestrol) administration decreases 17 ketosteroid output and that of the pituitary gonadotrophic hormone. However, estrogen administration causes a rise in urinary estrogen assays.

Clinical Treatment of Prostatic Cancer

Antiandrogenic therapy of prostatic carcinoma centers chiefly around castration and the administration of estrogens. Castration in a majority of cases is followed by relief of pain, increase in appetite, in hemoglobin and in general well being. However, there is loss of libido and the power of erection. The prostate becomes softer and diminishes in size. Bony metastases frequently show increased calcification by x-ray and at times apparent healing. Frequently patients have hot flashes which can be controlled by estrogens. Injection of testosterone probably reactivates the growth as pain becomes intensified and the serum acid phosphatase level rises. In performing orchiectomy only the glandular tissue of the testis is removed but this must be done thoroughly.

Estrogen therapy if successful produces these results more slowly but some outstanding urologists such as Kearns (who uses estinyl 0.05 mg. daily) and Dean advocate estrogen treatment ini-

tially. Herger and Sauer, and Nesbit ran parallel series of cases, one treated initially by castration and the other initially by stilbestrol. Herger and Sauer felt that estrogen is useful initially in selected cases but that these should have frequent examinations and that castration should be done when changes in prostatic size, infiltration of the pelvis, obstructive symptoms or elevation of the serum acid phosphatase are noted. Nesbit's clinical results from castration and estrogen therapy were somewhat identical but there was more regression in the size of the gland in patients treated with castration. Pain in certain patients after castration was relieved by stilbestrol. Herbst, Emmett and Greene, and Alyea advocate, as a rule, initial castration followed by estrogen in varying dosage and type. Deming feels that castration and estrogen produce about the same result. In general it is agreed that castration should be the initial procedure when extensive malignancy and metastasis are present and when the patient does not show a favorable response to estrogen. However, when castration has not produced a favorable response, as a rule estrogen will not bring improvement. Alyea, in a series of 40 patients treated by orchiectomy and followed over a 3 year period, found that 32% were dead in 2 years. Of 23 with metastasis, 32% were dead within one year and 42% within 2 years.

Munger has been the champion of x-ray irradiation of the testis as a means of castration. This is combined with regional irradiation. Others have suggested irradiation of the adrenals and even of the pituitary, especially when reactivation of the cancer occurs following castration and estrogen therapy. However, such measures have not attained wide acceptance.

The life expectancy following antiandrogenic therapy has naturally not been consistent in the numerous reports such as those of Alyea, Birdsall, Wear, Carroll, Seamans and others. Bumpus in 1926 found that in 485 cases when no treatment was given the average duration of the disease from the first symptoms to death was 31 months. Surgery and irradiation prolonged life but little, while relief of obstruction (at that time by cystostomy) on an average prolonged life to 57 months. The variability of cancer in its grade and progress in the individual patient, the extent of the lesion at the time treatment is undertaken and other factors make it difficult to answer the question as to how much longer patients will live after antiandrogenic treatment than if they had not been given this therapy.

Antiandrogen Treatment Preliminary to Total Prostatectomy

Recently certain urologists, among others Colston and Gutierrez, have proposed castration and estrogen treatment in selected cases of prostatic cancer which have progressed just beyond the stage where radical total prostatectomy is indicated. When the gland responds by shrinkage and periprostatic induration subsides, total prostatectomy may be performed with operative recovery as a rule. This use of antiandrogen therapy is hopeful but we must await the passage of time to evaluate its efficacy.

Discussion

While it is difficult to crystallize a definite program for treating prostatic cancer, certain tentative conclusions may be drawn:

1. When the growth is confined within the prostatic capsule, the serum acid phosphatase level normal, and metastases are absent, it is generally agreed that radical total prostatectomy (preferably after biopsy) together with removal of the seminal vesicles, offers the one hope for permanent cure.
2. Antiandrogenic therapy by castration and estrogen administration will cause regression of the growth for a variable period of time during which period the patient will frequently be relieved of pain and enjoy a life of relative well being. Such therapy will not often effect a permanent cure. How much life will be prolonged is a point which will require further observation.

Case Reports

Sixteen cases of prostatic cancer have been treated by the author with castration and estrogen. The diagnosis was made by rectal palpation or biopsy or both. X-ray examination showed metastasis in five. The ages of the group ranged from 56 to 84 years. Eleven patients required at some time treatment for obstruction, usually by transurethral resection.

Castration was carried out immediately or after a few weeks of estrogen therapy except in four patients who refused operation because of senescence and a fixed obsession against surgery. Two of these

who refused operation have obtained striking relief from estrogens for periods of 16 and 22 months and are still living. However, they are beginning to show increase in the size of the prostate and their serum acid phosphatase levels are high. Of the twelve patients treated with castration, three were only slightly improved. Nine have made a splended initial response for a period of six months to fifteen months. Six died within a year after operation. Two cannot be traced. Regional deep x-ray therapy has been carried out in addition to endocrine therapy in several instances but its value has been very questionable.

The estrogen used after castration has been diethylstilbestrol in doses usually of 5 mg. daily. During the past two years I have used estinyl (ethinyl estradiol) in doses of 0.05 mg. to 0.5 mg. daily more and more.* It is the most powerful oral estrogen and provokes less nausea and perhaps somewhat less painful engorgement of the breasts.

CONCLUSION

Estrogen therapy has a definite but limited value in treating benign prostatic hypertrophy. There is suggestive evidence that its combination with testosterone at times may be of value. If favorable response is not definite and prompt and no contraindication exists, removal of the obstructing prostate by transurethral or incisional procedure is indicated.

Castration and estrogen therapy, however, give relief from pain and restore well being to the patient with prostatic cancer. They produce regression of the growth for a variable period of time. How long they actually prolong the life expectancy of the patient, in spite of an abundance of clinical evidence, remains a disputed point.

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Medical Arts Building.

DISCUSSION

DR. SAMUEL A. VEST, Charlottesville: Dr. Keyser has certainly covered a very wide field and a field which is most interesting to the male population over forty years of age, inasmuch as the incidence of either benign hypertrophy or cancer is extremely frequent. It increases each decade until at eighty years of age possibly eighty per cent of men show some degree of either one or the other. I should like to emphasize a few things about this condition and Dr. Keyser's paper.

In the first place, the therapy of any disease is much simplified if we know the etiology, but after much research and study of this condition the etiology is still obscure. For many years there was debate as to whether prostatic hypertrophy was due to arteriosclerosis of the arteries in the prostate or whether it is an actual tumor or simple hyperplasia. During the last decade we have gone through a hormone era; there has been discussion as to whether prostatism is due to too little body androgens or to an excess of female hormone or to female hormone deficiency or to an imbalance between the two. There is even a strong possibility of dysmetabolism by the liver, particularly of the female hormones. A lot of modern therapy has been based on animal experimentation, but I can safely tell you that the benign hyperplasia that Dr. Keyser has been talking about never occurs in animals. The hyperplasia that occurs in dogs is not the type of hypertrophy found in humans. The sum total is that a lot of therapeutic programs in humans have been carried out on theoretical experimental bases. I can quote you from the literature, from one clinic to another, in which clinical improvement has been reported as a result of such animal experimentation. In spite of all that, there is no scientific basis for rational therapy as far as animal experimentation is concerned. Therefore, such clinical studies as Dr. Keyser has given us will prove valuable in the future.

I think Dr. Keyser would be the very first one in this room to agree when I say that he belongs to merely one group on the use of estrogens in benign hyperplasia. I wish I could express a definite opinion myself, but we do not have the type of clinical material in our clinic that Dr. Keyser has been fortunate enough to have to treat large numbers of cases of benign hyperplasia with estro-

gens. I might also tell you that in other clinics opposite results from Dr. Keyser's have been reported. I am sure that Dr. Keyser would want you to know that. On the other hand, in other clinics there is considerable agreement with Dr. Keyser and an enthusiasm for estrogens.

Estrogens do not reverse the basic histology or produce any changes in the prostate which we know as hypertrophy. I think I can say from even our small series that there is sometimes a reduction in size, but that might be a result of reduction in the amount of secretion in the prostate and not reduction of the hyperplastic tissue itself.

The number of endocrine therapeutic possibilities are large. As to how much hormone to use, Dr. Keyser is on the band wagon for small dosage; others give larger amounts. Some conclude that estrogens by mouth are detoxified by the liver and urge injections as a method of administration.

There are many types of clinical studies in regard to hormone therapy being made. For example, at the University we wanted to know about the results of castration alone in cancer of the prostate. So we castrated about seventy-five cases. We put those cases aside in a closed group so far as statistics are concerned; and it will be possibly four or five years yet—because they live a long time—before all seventy-five are dead and we can then tell you that the average patient lived so many years. Another clinic may then have a report on other lines of therapy such as the results of small doses of estrogen, another one on large doses of estrogen, etc. I think out of all these studies perhaps in five to ten years we shall finally be able to have some idea of where we are actually going in this matter of hormone therapy in both benign hyperplasia and in cancer, and only then will we be able to correctly evaluate the improvements.

We have not yet found the complete answer, but such data as Dr. Keyser presented should be recorded. It will prove valuable to us not only now but in the future, and I wish to thank him personally for it.

DR. KEYSER, closing the discussion: I wish to thank Dr. Vest for his excellent discussion and the well considered opinions he has expressed on this controversial subject. Several points should be emphasized.

As stated in the body of the essay, the experimental work done on animals is very inconsistent and somewhat confusing. In any research problem with a background of animal experimentation the evaluation of the therapeutic merit suggested thereby must await clinical trial.

With regard to benign prostatic hypertrophy, when I started treatment with hormones I had an initial series of rather brilliant results and—perhaps unfortunately—became enthusiastic over this form of therapy. I am still enthusiastic over its possibilities in selected cases. Certain patients with large glands and definite obstruction do obtain what seems to be a result comparable with that afforded by prostatectomy. Unfortunately this is the exception rather than the rule.

Also, it should be brought out that early cases of carcinoma amenable to radical surgery may be missed in using hormone therapy. About 20 per cent or more of all prostate glands removed show histologic malignancy.

There is a psychological factor in dealing with older men which is of tremendous import. They are hoping to find the fountain of youth. While this is not to be entirely discouraged, we must keep a scientific attitude and not become too enthusiastic.

I am in agreement with Dr. Vest that any therapy along this line must be well thought out and well planned. Finally, and I am certain Dr. Vest would agree, any treatment of prostatism is a matter to be carried out or at least carefully supervised by a well trained urologic specialist. This is especially true of hormone therapy. It should be emphasized that surgery is still by all odds the treatment of choice in prostatism. The general use of hormone treatment by those not trained in urology would bring such therapy into disrepute and cast doubt upon whatever merit it may have in selected cases.

Floral Eponym
Galtonia

SIR FRANCIS GALTON, 1822-1911

Sir Francis Galton, a cousin of Charles Darwin, was born at Birmingham and received his education at Birmingham Hospital, at Kings College, London, and at Trinity College, Cambridge. During 1845-46 he traveled in the Sudan and in 1850 he explored South-west Africa, and on his return he published *An Explorer in Tropical South Africa.* Later he became interested in meteorology and was the first to chart the weather on an extensive scale. In 1859 he began to study anthropology, heredity and the application of statistics to human attributes. He is considered the founder of eugenics.

Galtonia is a small genus of South African bulbous herbs of the lily family. The best known is G. candicaus or summer hyacinth.

MENINGITIS IN INFANCY*

WM. B. MCILWAINE III, M.D.,
and
HERMAN FARBER, M.D.,
Petersburg, Virginia.

The object of this presentation is not to discuss the subject, meningitis, in all of its many ramifications, nor to report any large series of cases, nor to bring forward some new treatment. It is simply to recall, to us all, the fact that meningitis in infants does not present the clear cut, text-book picture we expect, and so often find in older children, and the importance of considering the meninges as a focus of infection in all cases of unexplained illness in infants even though the symptoms and signs are meager or totally non-existent.

In my own experience it is rather startling, after practicing pediatrics for over twenty-five years, to have some new knowledge which makes me wonder how many times I may have overlooked until too late, a condition which now I feel sure I shall remember for the next twenty-five years (I hope).

Dr. Farber while studying under Dr. H. D. Long in Chattanooga recalls the admonition given by Dr. Long that in any case where an infant runs an unexplained fever for 48 hours do a lumbar puncture.

In discussing the diagnosis of meningitis in infancy Drs. Hogg and Bradley,[1] while reporting a case of pneumococcus meningitis in the new born with recovery, review the literature and quote Dr. Cooperstock as saying that "unexplained fever may be the only sign, and with convulsions should make one suspicious of meningitis." Cooperstock[2] himself, writing in the *Journal of the Michigan Medical Society* in 1938, says, "out of 12 cases of meningitis in infants admitted to the clinic only one was diagnosed before admission." I also quote Cooperstock as saying, "Instances are met with in which unexplained fever exists as the solitary evidence of meningitis in which examination of the spinal fluid holds the final answer."

Dr. J. M. Ravid,[3] writing in the *American Journal of Diseases of Children,* quotes McLeen and Caffrey as saying, "Meningitis was not recognized in 136 infants prior to entrance to the hospital and in some cases the diagnosis was not reached even after many days in the hospital."

*Read before the annual meeting of the Medical Society of Virginia in Richmond, October 18-20, 1948.

Ravid himself states that "tension and bulging of the fontanel is always present and is one of the most reliable signs of meningitis in infancy." He also considers that unexplained fever with diarrhea which does not respond readily to treatment requires a spinal puncture.

Herman,[4] writing in 1915, in reporting a case of meningitis in the new born, writes "No meningeal symptoms were present at any time, yet the autopsy showed a purulent meningitis and the culture a pure culture of pneumococci.

Koplik,[5] writing in 1916, gives the symptoms and signs of meningitis in the young infant as fever, twitching, and a peculiar groaning respiration, and stresses the fact that there may be no irritative symptoms nor rigidity but generally the infant is quite limp with cyanosis and marked apathy.

In the 14 cases we are reporting we have tried to outline the symptoms and signs and diagnoses as follows:

CHART NO. 1

As will be noted, all of our cases had fever. While only the admission temperature is given, practically all ran a rather moderate, irregular febrile course except for a rapid rise to 105-107 as a terminal event in those who died. Only four of our cases had convulsions, a condition so often and freely associated with meningitis. In only six cases was vomiting a noticeable symptom, but, along with six cases in which stupor was present in varying degrees, was the most constant finding other than fever. Only three cases of the 14 presented signs of meningeal irritation and in only three cases was a rash, generally petechial in character, noted. In three cases pallor was a striking symptom, although most of these babies were pale and showed a moderate anemia by the routine blood counts.

An impressive fact was that in not a single case was tension or bulging of the fontanel noticed, which leads us to believe that this sign must be more frequently seen in the new born than in infants after the first month of life. Eight cases had complicating diseases, three of which was pneu-

CHART No. 1

NAME	AGE (mo.)	RACE	SEX	FEVER	CONVULSIONS	VOMITING	STUPOR	SIGNS OF MENINGEAL IRR.	BULGING FONT.	RASH	PALLOR	COMPLICATIONS	TYPE	RESULTS
1. B.H.	1	W	F	101							x		M	R
2. D.W.	2	W	F	102								Pneumonia	P	R
3. J.T.	2	N	M	102								Diarrhea	P	R
*4. L.W.	2	W	F	104 8								Pneumonia	?	D
5. N.H.	2	N	M	99 8	x								S	D
6. H.W.	4	W	M	101			x				x		M	R
7. C.M.	6	N	M	99.2			xxx	x					P	D
8. R.H.	6	W	M	101		x	xxx			x			M	D
†9. R.B.	8	W	M	104.4	x	x	xx					Otitis Media	P	R
10. N.G.	9	W	F	103.4	x	x	xxxx				x	Pneumonia	P	R
11. L.L.	9	W	M	100.4								Lt. Side Paralysis	?	R
12. G.E.	11	W	F	102.6		x				x			P	D
13. M.M.	12	N	F	98		x		x				Lues	M	R
14. A.M.	12	W	M	103.2	x	x	xx	x		x			?	D
NAME	AGE	RACE	SEX	FEVER	CONVULSIONS	VOMITING	STUPOR	SIGNS OF MENINGEAL IRR.	BULGING FONT.	RASH	PALLOR	COMPLICATIONS	TYPE	RESULTS
Totals		10 W 4 N	8 M		4	6	6	3	0	3	3	7	4 M 6 P 3 ? 1 S	6 D 8 R

*Dr. Leta J. White.
†Dr. William Grossmann

monia. Two of these may have been the cause of the meningitis and one may have been a complication of the meningitis.

In only one of our cases was diarrhea or gastro-intestinal disorder noted, which does not correspond with the view of Ravid.

Paralysis occurred in only one case.

Lues, noted in one case, seemed to be of no importance in the course of the meningitis.

One case very definitely was a direct extension

from a purulent otitis media and mastoiditis.

The spinal fluid was under increased pressure in all cases, varying from slightly cloudy in two cases to purulent in one case. The cell count was above normal in all cases with a wide range of variation from 10 to 88,200.

The organism causing the disease was the meningococcus in four cases, one of which died. The pneumococcus was the causative organism in six cases, of which two died. The influenza bacillus was the causative organism in only one case which recovered. The streptococcus was the causative organism in one case which died, and in two cases the causative organism was not satisfactorily established, one of which recovered and one of which died. In all there were eight recoveries and six deaths.

CASE REPORTS

Case 1.—B. H. was a one month old white female. She lived in a rural community. The environmental and sanitary conditions of her home were good. The parents were intelligent and at all times cooperated with the physician.

History of the Present Illness.—On Oct. 19, 1946, the infant was seen for the first time at home. The mother said that the baby had been having a slight fever for about 24 hours. Otherwise the mother had noticed nothing wrong with her. Examination at this time did not show any cause for the fever. There was no evidence of any upper or lower tract respiratory infection. The temperature was 101. The baby did not appear to be very ill and was actually playful, but was given small doses of aspirin. The next day, Oct. 20, the infant still showed the same low grade fever (101). Physical examination still did not show any cause for the fever. At this time particular attention was paid to the examination of the nervous system. No pathologic or abnormal manifestations could be made out from the neurological examination. The infant was started on sulfadiazine by mouth. At this time it was noted that the baby was probably a bit more drowsy than the temperature would indicate. On Oct. 21st, the baby was seen again at home. A profound change had taken place. The infant was very drowsy. It could be aroused but would immediately drift back into a deep sleep. The temperature was still 101. There were no other signs suggestive of meningitis. The tension of the fontanel was normal. The infant appeared much paler than it had on the previous day, and was admitted to hospital.

Physical Examination.—This revealed a baby in a deep sleep. Examination by systems was negative. The neurological examination was normal. The baby was pale. The tension of the fontanel was normal.

Laboratory Studies.—Spinal fluid showed 6,500 w.b.c. predominantly polys. The sugar was decreased. The smear showed many gram negative intracellular diplococci.

Course in the Hospital.—The temperature never went over 102. The baby developed classical signs of meningitis as manifested by stiff neck and a Kernig within a few hours after the first lumbar puncture. She was started on penicillin intrathecally and intramuscularly. She was also given oral sulfadiazine. The neurological signs disappeared slowly on this infant. She retained a stiff neck for about two weeks. At times she would have projectile vomiting. The infant remained drowsy for about 10 days. She always took her nourishment well and feeding her was never a problem. She was discharged in good condition on Nov. 11, 1946. She has been seen several times since then and has shown no complications or sequlae as a result of the meningitis.

Case 2.—H. W. was a 4 months old white male. Admitted Feb. 9, 1948, and discharged on Feb. 20, 1948. He lived in a rural community and the sanitary and evironmental facilities of his home were very bad.

History of the Present Illness.—The baby was put to bed feeling fine on the night of Feb. 8 (the night before admission). The baby did not awaken at the usual time the next morning. When the mother went into the room to see why the baby had not awakened, she noticed that it felt hot and was breathing rapidly. She also noticed that the baby was pale. She became frightened and brought the infant to the hospital.

Physical Examination.—This revealed a very pale baby. The respirations were rapid. The baby was drowsy but could be aroused without much difficulty. Examination of the body by systems was normal except for the extreme pallor and the difficult respirations. There were no *positive neurological findings.* Tension of the fontanel was normal.

Laboratory Studies.—R.B.C. 2,810,000; Hb.

60%; W.B.C. 10,500. Differential was normal. X-ray of the chest was normal. Lumbar puncture Feb. 9, 1948, showed a cloudy spinal fluid. The cell count was 50 and showed 100% polys. The smear showed many gram negative intra and extracellular diplococci.

Course in the Hospital.—The baby was given sulfadiazine by mouth and penicillin intrathecally. The baby's temperature never went over 101 degrees during the entire hospital stay. He never developed any classical signs of meningitis such as stiff neck or positive Kernig. The baby improved from the beginning of the therapy. The infant was given 2 blood transfusions to combat the anemia. No difficulty was experienced with vomiting. The baby was discharged on Feb. 20th with no apparent sequelae or complication of the meningitis.

Case 3.—N. G. was a 9 months old white female. Admitted to the hospital Dec. 15, 1946. She lived in a rural community. The environmental and sanitary conditions were not good.

Past History.—This baby had been ill with a fever for about one week. The history that could be obtained was unreliable. The mother had been treating the fever with aspirin. She thought the infant had only a cold. On Dec. 15, 1946, the baby had a severe generalized convulsion.

Physical Examination. — Examination at this time revealed a well developed white female baby. The color was pale. It was evident that the infant was quite ill. The respirations were rapid and labored. At this time the patient was having a generalized hard convulsion. The temperature at this time was 103. There were signs of a rather extensive pneumonia on the right side. Examination by systems of the other parts of the body did not reveal any pathologic or abnormal findings. The neurological examination did not show any abnormalities.

Laboratory Studies.—W.B.C. on admission showed 22,000, most of which were polys.

Course in the Hospital.—The baby was started on penicillin as soon as it was admitted to the hospital. The convulsion was treated routinely with cool enemas, cool sponges, sedation and aspirin. It was thought that the temperature was higher just before admission to the hospital. The mother said that it felt much "hotter" at home and she had given the baby a half an aspirin just before bringing her to the hospital. The convulsion lasted only a minute or two after being admitted. The baby seemed to be much sicker than the temperature would indicate. The patient was taking nourishment well and seemed to be gradually getting better. The signs of pneumonia were gradually clearing up. On Dec. 22, the nurses noted that the baby had difficulty in keeping its food down. It would vomit a few minutes after eating. The vomiting was non-projectile in character. The temperature at this time was not over 100. However, the baby continued to look well and did not show any evidence of dehydration. On Dec. 24 the temperature was 102. The infant was still vomiting of a non-projectile type. *A lumbar puncture* was done. It showed *675 cells* most of which were polys. The globulin was 4 plus. There were many *gram positive diplococci* present both intra and extracellular. The culture of the spinal fluid was *positive for pneumococci.* The patient was given intrathecal penicillin, sulfadiazine by mouth, and intramuscular penicillin. The intramuscular penicillin was never discontinued from the onset of the diagnosis of the pneumonia. The baby was given 3 blood transfusions to combat the anemia that developed after the diagnosis of meningitis. The baby never developed any of the classical signs of meningitis as manifested by stiff neck, Kernig's, etc., and was discharged in good condition on Jan. 9, 1947.

SUMMARY

1.—Fourteen cases of meningitis in infants from 1 to 12 months of age inclusive have been reported.

2.—The lack of uniform symptoms and signs and at times the absence of any symptoms or signs of meningitis other than fever has been noted.

3.—The advisability and importance of early spinal puncture for diagnosis has been stressed.

4.—Three cases illustrating the subject matter of the report have been discussed in detail.

5.—We feel that today, as has been and always will be, the question of diagnosis is of paramount value both to the patient and the physician.

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DISCUSSION

DR. EDWIN L. KENDIG, JR., Richmond: I have enjoyed very much the discussion of the problem of meningitis in infancy by Dr. McIlwaine and Dr. Farber, and I appreciate the privilege of discussing it.

Actually, I have little to add, but there are two points that I should like to emphasize. Certainly this paper has shown again that the usual signs and symptoms of meningitis in older children and adults are not necessarily present in the disease as it appears in infancy.

Since early diagnosis is of paramount importance in the establishment of successful treatment of the disease, it would seem logical to say that any febrile disturbance in infancy, the cause of which is not immediately apparent, deserves a lumbar puncture. Further, spinal puncture should be done on any infant who has a convulsion.

DR. ————: I enjoyed very much Dr. McIlwaine's description of meningitis in infancy. I think, as has been manifested both by Dr. McIlwaine and by the discusser, you cannot make a diagnosis of meningitis in an infant that young by the physical signs alone. We have had occasion to treat about five hundred cases of influenzal meningitis and about forty cases in infants in our hospital in the last five years. I think one thing to be emphasized is not only to make a diagnosis of meningitis but also of what type of meningitis it is if you are going to get a rational therapy.

Nothing has been brought out about the treatment of meningitis, except in a vague way. It is our policy in treating influenzal meningitis to give them the whole works. Dr. ———, in New York, thinks streptomycin alone is enough. In our cases of meningitis, of which I have treated forty, with about four deaths, in the last five or six years—we treated practically all with a combination of Type B influenza, saline, sulfadiazine intravenously, and also streptomycin intramuscularly. In the last few cases we have not given any streptomycin at all and think that penicillin intrathecally is uncalled for and unnecessary except in streptococcic meningitis. In influenzal meningitis I give the streptomycin, penicillin, and sulfadiazine intravenously. We have had a few over forty cases, with four deaths.

DR. MCILWAINE, closing the discussion: I want to thank Dr. Kendig and Dr. ——— for their discussion. We did not discuss any therapeutic measures, and I am very grateful to the doctor for giving us the last word on it.

Of course, I think the less you have to go into the spinal canal the better. If we can treat meningitis by oral medication and the intramuscular and intravenous routes it will be more satisfactory.

Heart Infection Takes Heavy Toll in Disability.

Despite the success doctors have achieved in curing infection of the lining of the heart by administering penicillin, patients who recover from the disease may be disabled.

One out of three patients in a group of 18 reported in the September 10 *Journal of the American Medical Association,* were left with a progressive heart condition, although penicillin cleared up the active infection. Subacute bacterial endocarditis, inflammation of the membrane which lines the heart, has been until recently an almost uniformly fatal disease. In a number of cases it follows rheumatic fever.

With the advent of penicillin therapy, however, doctors have been able to cure many patients of the active heart infection. But since the membrane which lines the heart muscle covers the valves of the heart as well as its inner walls, endocarditis may leave scars which cause narrowing of one or more valves or interfere with their proper closing.

All of the group of patients reported by Drs. Sherman R. Kaplan, Ray H. Rosenman, Louis N. Katz, and William A. Brams, of Michael Reese Hospital, Chicago, were followed from 25 to 61 months after their heart infection was cured by penicillin therapy. Six of the patients had progressive heart disability since the onset of subacute bacterial endocarditis. In three of these the disability led to death from heart failure. Twelve showed no progression of their heart condition, the doctors say.

PRE-OPERATIVE STUDY OF THE MALFORMED NOSE

WM. LAWRENCE GATEWOOD, M.D.,
Richmond, Virginia.

To properly correct the deformed nose, adequate appraisal of all the parts involved in the production of the malformation is required. This can only be accomplished when a painstaking examination of the external and internal nose is made and an analysis of the findings, resulting from this examination, has been carefully noted. A thorough anatomical study of the nose is of paramount importance to establish every anatomical constituent in the etiology of the malformation and before proceeding with a description of the method of examination, it would be well to review briefly the principal anatomical structures.

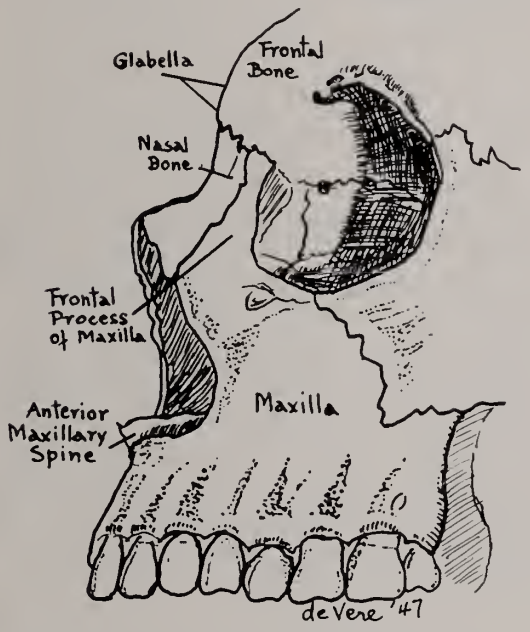

Fig. 1. Bones of the face—in the nasal and infratemporal regions.

CLINICAL ANATOMY

The nose is composed of bone and cartilage covered by skin externally and mucous membrane internally. The septum bisects the nose longitudinally, separating the two nostrils. Structurally from above downward, the nose is composed of a bony vault, a superior cartilaginous vault and an inferior cartilaginous vault (Fig. III). Each of these structures form a part in maintaining the bridge line and the contour of the lateral walls and each is dependent on the septum for support (Fig. II).

Bony Vault.—This is composed of the two nasal bones; they rest on the frontal processes of the maxilla and join each other in the midline, producing

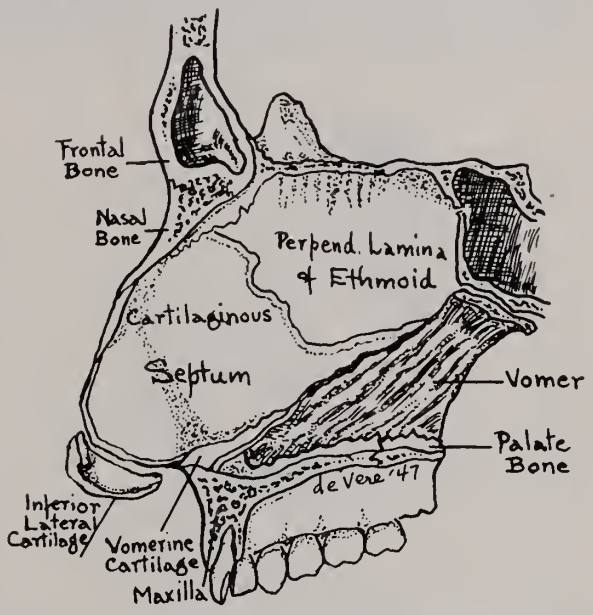

Fig. 2. Lateral view of nasal septum—showing bones and cartilages that form its skeleton.

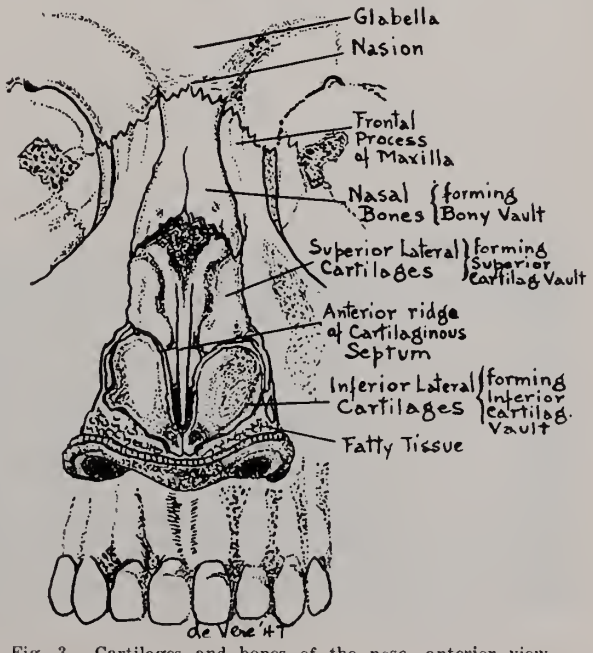

Fig. 3. Cartilages and bones of the nose—anterior view.

what is known as the bony dorsum or bony bridge (Fig. III). The nasal bones also obtain attachment to both the bony and cartilaginous parts of the septum. Their upper borders are attached to the frontal bone with which they form the root of the nose. On the dorsal line, this point is known as the glabella. Here, the two nasal bones are slightly separated to allow the interposition of the strong internal angular process of the frontal bone. The lower free borders of the nasal bones receive the superior lateral cartilages which are attached to them by fibrous bands (Fig. III and IV).

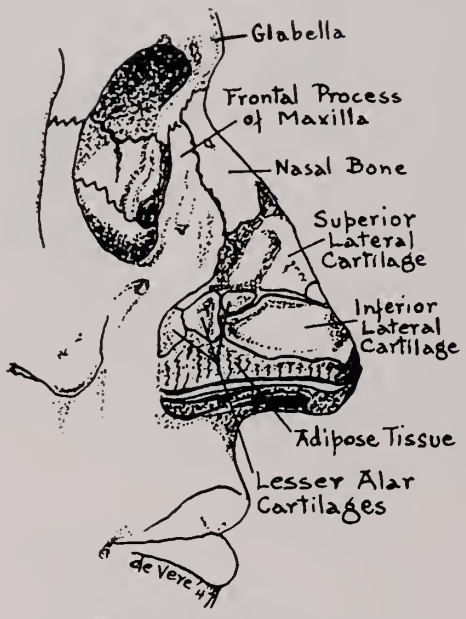

Fig. 4. Cartilages of nose—lateral view.

Superior Cartilaginous Vault.—This consists of two triangular pieces of cartilage placed on either side of the cartilaginous septum. The long side of each is fixed to the septum, the upper edges to the nasal bones, and the lower edges to the lateral crura of the inferior cartilaginous vault. These cartilages are known as the superior lateral cartilages (Fig. III, IV and V). They are responsible for the contour of the middle third of the lateral nasal walls and dislocation of their septal attachments produces asymmetrical convexity or concavity in accordance with the anatomical disorganization which follows.

Inferior Cartilaginous Vault.—This is composed of two V-shaped cartilages, each of which frames its respective nostril. The angles of the two cartilages form the nasal tip. The medial crus of each, attached firmly to its fellow by fibrous tissue, makes up the so-called membranous portion of the septum. This is contiguous with the lower border of the cartilaginous septum and provides a support for the skin of the columella. The medial crura, about ½ cm. wide, end posteriorly in

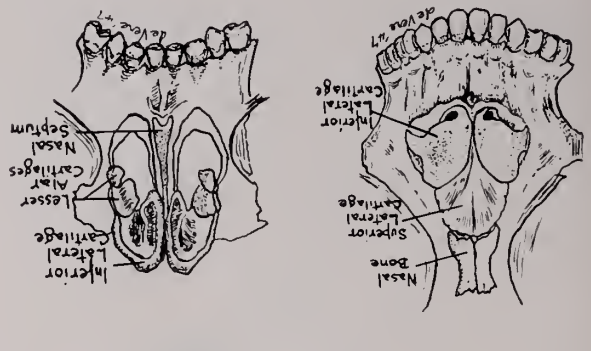

Fig. 5. Cartilages of the nose—"A" anterior view, "B" inferior view.

slight lateral deviations which run beneath the floor of the nostril to gain attachment to the nasal spine. The lateral crura curve outward from the nasal tip to give support to the nostrils before ending in the region of the alae (Fig. II, III, IV and V).

Septum.—This consists of bone and cartilage. The bony septum is composed of the vomer and the perpendicular plate of the ethmoid. The ethmoid rests on the vomer. The cartilaginous septum is quadrangular in shape and situated in the lower half of the nose. It rests on the palatal processes of the maxilla and on the vomer which is grooved to receive it (Fig. II).

EXAMINATION

External Nose.—The nose should be examined full face and in profile and should be compared with photographs of the patient taken before the

A. Congenital malformation of nose. After surgical reconstruction.

B. Posttraumatic malformation of nose. Post Operative result. Posttraumatic flattening of lower aspect of nose. After surgical repair.

onset of the deformity, if these are obtainable. When examining the full face or the profile, each of its three component parts, the bony vault, the superior cartilaginous vault, and the inferior cartilaginous vault must be studied to obtain an accurate assessment of the anatomical displacements. When viewed full face, the nose may be obviously deflected from the midline. The point of maximum deviation must be determined by laying a ruler over the root of the nose and center of the upper lip. This is readily seen and the position of the nasal tip revealed relative to the midline. From the same viewpoint, abnormal breadth of the nose, either in its bony or cartilaginous parts, is at once apparent. The region of the superior lateral cartilages is examined for abnormal sagging or undue bulging and the nostrils are examined for asymmetry and inequality of size.

Unilateral prominence of the nasal tip is noted. Flattening of the alar region, indicative of separation of the attachment of the inferior lateral cartilage from the maxilla, is looked for. Palpation of the lateral nasal walls confirms any suspected irregularity of the bony contour, demonstrating bony elevations, overlapped comminuted fragments and sometimes an infracted shelf of the nasal bone still attached to the maxilla. When seen in profile, an irregularity of the bridge line is at once in evidence. Usually, such an irregularity consists of a depression and careful note is made of location of the maximum collapse. Occasionally, an irregular prominence is seen on the dorsal line bordering the depression. This is due to the elevation of the opposite end of a sliver of a slithering bone tilted as it became displaced backward when the bridge collapsed. Examination in profile will also reveal any abnormal retraction of the lateral margin which is confirmed by comparing the two sides. With the patient's head well extended backward, the columella is visualized and any abnormality, such as widening and deviation, is recorded.

Internal Examination.—An estimation of the degree of obstruction of the airway is first made by instructing the patient to inspire and expire through

C. Gross posttraumatic distortion of nose. After correction. Posttraumatic broadening of entire nose. After surgical correction.

each nostril. The mucosa is then inspected with the aid of a speculum and good light. When septal deflections are significant, special note is made of their relationship to the bridge line and to the lower border of the septum. Careful examination is made to decide whether the deviation is confined to either the bony or cartilaginous parts or whether both of these structures are involved. Bridging of the lateral and medial mucosal linings is looked for and is often found to be extensive. With a fine probe, the extent of such adhesions is investigated and the amount of underlying bony block determined. Spicules of bone or cartilage, driven through the mucosa at the time of injury, may still be found to be incompletely covered. Finally, the region of the middle turbinal bones is examined on both sides of the nose for evidence of purulent discharge from the sinuses. If sinus disease is suspected, other diagnostic measures should be resorted to, including x-ray films of the sinuses.

Clinical Photography

Before operative treatment is begun, clinical photographs of the nose should always be taken. Full face, right and left profile views are essential. For the purpose of case records, a series of clinical photographs is extremely informative and, together with detail notes, form a backlog of knowledge which is so much needed at the operating table. It is important to have a standardized technique so that each picture can be compared with those previously taken and the best results are obtained if the same technician is able to take all of the pictures in the series.

The examination outlined should always precede the necessary surgical technique which must be meticulously planned in advance of the actual operative procedure. The purpose of surgical treatment in deformities of the nose is to restore the nose to its correct shape, thereby improving both its appearance and function. This requires free mobilization of all misplaced parts and the necessary reconstruction to properly shape the bony and cartilaginous structures. The operation should effect the shortening of the elongated nose, straightening of the crooked nose, narrowing of the broadened nose, flattening of the humped nose, elevation of the saddle nose and the adjustment of the set and lie of the columella and the superior and inferior lateral cartilages. Mobilization of the nasal bones and severance of their attachment to each other and to the septum is often required.

The method of examination described should be applicable in the study of the various types of malformations of the nose, congenital or acquired, with the exception of those cases of total or partial loss. Deformities, due to trauma and disease, occur less often than do those of congenital origin and they not infrequently present interesting and difficult problems in the matter of their correction.

In undertaking the surgical repair, it must be remembered that the nose, being the most conspicuous facial feature, challenges attention if it materially differs from the means of the normal nose. As disguise of the deformity is impossible, surgery remains the only recourse and such reconstruction must conform to the other features of the face or its purpose will be defeated.

Comment

To obtain a satisfactory esthetic and functional result, a thorough preoperative evaluation of the deformity is essential and the plan for the necessary operative steps should be based upon the findings, resulting from this pre-operative study. It is obvious that good surgical craftsmanship, executed through intranasal incisions, together with artistic, creative power on the part of the surgeon in shaping and reassembling the structures involved, should materially enhance the outcome.

The accompanying photographs show post-traumatic and congenital deformities of the nose before and after surgical reconstruction.

Note the more youthful appearance of the patient subsequent to surgical repair.

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ETIOLOGICAL FACTORS IN PANCREATITIS*

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An understanding of the fundamental steps taking place in the development of any disease is necessary in order to prescribe and carry out the proper treatment. Our system of medicine requires a diagnosis, and we feel that only with a diagnosis can we offer the large number of patients relief. Treatment is directed toward alleviation of causative factors.

Pancreatitis falls into that group of morbid processes which we do not understand thoroughly. A review of the etiological factors is proposed, and suggestions toward a physiological plan of therapy will be presented.

Diseases of the pancreas were almost unknown until Reginald Fitz in 1889 gave us a classification of pancreatitis. The anatomy of the pancreas is important because of its relations and its retroperitoneal position, lying at the level of the first lumbar vertebra. The head is surrounded by the duodenum, the lesser sac and celiac axis above, the superior mesenteric artery below. The tail is in relation to the splenic artery and the hilum of the spleen. The numerous arteries are derived from the hepatic, splenic, and superior mesenteric arteries, giving it a very rich blood supply. The veins are part of the portal system passing into the liver. The main duct (Wirsung) drains the entire pancreas, and empties into the duodenum in relation to the common bile duct. The accessory duct of the head (Santorini) usually has an independent opening.

The nerve supply from the splanchnic plexus, consists of secretory fibers from the vagus nerve, and vaso-motor fibers from the sympathetic trunk. Stimulation of the vagus nerve yields a thick fluid rich in enzymes. This action is blocked with atropine. Further secretions, chiefly water and inorganic substances, follow injection of the first hormone, secretin. Further secretion also is evoked by the presence of acid gastric chyme in the duodenum. Stimulation of the sympathetic fibers may result in an increased secretion, but this is thought to be a vascular effect.

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The chief enzymes are trypsin, lipase (steapsin) and the amylases. Trypsin is activated by hydrochloric acid, bile, or calcium salts and splits protein into peptones, and peptones into amino-acids. It works best in an alkaline media, while the proteolytic gastic pepsin works best in acid media. The lipase splits the fat into fatty acids and glycerin, aided in the emulsification by bile salts. Many amylase varieties are present, splitting starch and all of its sugars. Measuring increased amylase activity in the blood is the most common means of determining the presence of pancreatitis.

The morbid anatomy characteristic of pancreatitis is the development of a diffuse glassy edema of a swollen indurated gland or a hemorrhagic necrosis, followed by an abscess formation in more severe grades. Fat necrosis on the surrounding surfaces and hemorrhagic peritoneal exudates are common findings. The cause of this change remains incompletely answered.

It is definitely accepted that a "common channel"[1] is the most common anatomical finding necessary to bring about pancreatitis.[2,3,4,5,6,7] While bile can normally be present in the pancreatic duct without incident, some change in its character or method of entry activates trypsinogen. Ductal obstruction[8,9] from any cause is a precipitating factor. Doubilet has prevented recurrent pancreatitis by section of the sphincter of Oddi.[7]

Experimental evidence showing the severe results following induction of pancreatitis in an actively secreting gland have recently been published,[9,10] bearing out clinical opinions of observers the past sixty years. Rich and Duff[8] felt that the degree of trypsin activity determined whether the gland would show edema or hemorrhagic necrosis. Popper and his associates[5] were unable to produce hemorrhagic necrosis in acute pancreatic edema until they temporarily obstructed the pancreatic artery for fifteen minutes. This anoxic factor is very significant, though the degree is not clear to most interested clinicians. It is suggested that relief may come from release of vaso constrictive impulses by procaine splanchnic anesthesia.

Infection of the pancreas was the earliest described cause of pancreatitis, the mode of approach being duodenal, ductal, lymphatic, or hematogenous. This is not held to be a factor now, but, when present, is secondary to the necrosis. This is all that can be seen from a pathologists' point of view.

Alcoholism, as a factor, probably causes a duodenitis with spasm of the sphincter causing a reflux.

Anaphylaxis will be mentioned only because it has recently been called to attention in the literature.[11]

Treatment based on consideration of the etiological factors consists of conservative methods immediately, and operative methods later. First, relief of the intense pain with morphine or demerol is always covered by simultaneous injection of atropine. I prefer an immediate splanchnic anesthesia using Labat's modification of Kappis' approach with 1% procaine.[12] It has been noted that the severe pain of pancreatitis seldom recurs following splanchnic anesthesia, while the severe colic of gall stones, renal stone, and intestinal obstruction nearly always recurs.[13] Relief of severe pain seen in pancreatic lithiasis and chronic pancreatitis not only follows the radical procedure of pancreatectomy, but also follows splanchnicectomy.[14,15,16] Clinical trials with procaine splanchnic anesthesia not only demonstrates the relief of pain but a definite therapeutic effect too.[17]

Second, immediate gastric suction is started, and intestinal motility and secretion is kept at a minimum for days. Guides to removal of the tube are normal passage of gas by rectum, a normal pyloric balance, and the disappearance of the upper abdominal tenderness.

Third, intravenous fluids, as needed, and for replacement, include blood, amino-acids, glucose in water, and isotonic saline.

Fourth, close observation for the development of complications must be carried out. Diabetes, localized suppuration, pancreatic cysts, and hypocalcemic tetany have been described, and are more common as the severity of the lesion increases. Insulin, proper surgery, and calcium serve to ameliorate these developments.

Fifth, determination of the precipitating factors, if possible, must be carried out. As a general rule, cholecystitis with stones will be found, and cholecystectomy, choledochotomy, and endocholedocal dilatation of the sphincter of Oddi and ampulla can be carried out. Bakes dilators up to 8 or 9 mm. generally suffice. In treating recurrent acute pancreatitis, Doubilet and Mulholland[7] have found it necessary to cut the sphincter of Oddi in 21 instances with relief in 20, in order to have adequate and free flow of the biliary pancreatic secretions. Allen and Wallace, showing the simplicity and effectiveness of Bakes dilators,[18] described the finding of the ampulla of a patient of Dr. Bakes 76 days post-operatively, when the number 13 sound was easily passed. No cicatricial tissue was found; the patient died following severe gastric bleeding, unrelated to the biliary disease.

SUMMARY

Pancreatic duct obstruction from ampullary stone, stricture, or spasm, or from inspissated mucus or metaplasia of the duct epithelium appears to be a prime precipitating factor in acute pancreatitis.

Trypsinogen activation, which follows, accounts for a large amount of the pathology.

Local ischemia from vaso-spasm with the resulting anoxia may be the factor which lowers the normal resistance of the pancreas to enzyme damage.

An actively secreting gland increases the severity of the lesions experimentally and clinically.

CONCLUSIONS

The role of vaso-spasm and anoxia in pancreatitis must be more clearly understood.

Recognition of the concept of obstruction as the prime factor in precipitating acute pancreatitis, leads to a surgical attack on the ampulla of Vater to prevent recurrences following indicated cholecystectomy.

Splanchnic anesthesia appears to have definite therapeutic value in early management of acute pancreatitis, in addition to relieving pain.

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183 North Upper Street.

Keep Moth Balls Away From Children.

Sucking moth balls can cause severe poisoning in children, warn two Detroit doctors. Four cases in which two-year-old youngsters were made acutely ill by eating moth balls of naphthalene are reported in the September 17th *Journal of the American Medical Association* by Drs. Wolf W. Zuelzer and Leonard Apt of Wayne University College of Medicine.

The substance caused an anemic condition. All four children recovered completely after receiving blood transfusions and other treatment.

"In each of the four patients, a definite history of naphthalene ingestion was obtained, although the exact amounts could not be established. Each child previously had been in perfect health and had not been exposed to other chemicals with hemolytic action [destroying the red blood cells]. Within a period varying from three to seven days, severe anemia developed in each case. The patients eventually made a complete recovery with return of the blood values to normal levels. All of our patients were approximately two years old, an age group particularly prone to the ingestion of household poisons. The symptoms begin with listlessness and loss of appetite followed by vomiting and other gastrointestinal disturbances. Eventually pallor is noted. Since moth balls are a common and easily accessible household article, generally believed to be harmless, and since the American literature seems to contain no previous reports of this kind, the cases are reported in detail."

The doctors do not suggest that any first aid procedures to combat moth ball poisoning be carried out at home before a doctor is called.

OPTOCHIASMATIC ARACHNOIDITIS REPORT OF A CASE*

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Since the first description of a localized process of arachnoiditis in 1898 by Schlesinger, and the first operated case in 1903 by Spiller, Musser and Martain, the entity of optochiasmatic arachnoiditis has become a recognized syndrome in diseases of the optic nerve and chiasma. The first surgical case was reported in 1929 by Balado. The thorough review of the literature by Ballock in 1939 numbered 129 reported cases. Up to the present date the writer has found a total of 164 cases of optochiasmatic arachnoiditis which have been diagnosed with or without surgical confirmation.

No single entity can be attributed to the formation of optochiasmatic arachnoiditis. In many cases the etiology is never determined. Infection of the meninges and brain by syphilis, trauma, sinusitis, petrositis, mastoiditis, and chronic rhinopharyngitis have been listed as causative factors.

Optic atrophy is the most frequent associated condition in these cases; however, a normal fundus may be seen.

The following most characteristic features suggesting the diagnosis of optochiasmatic arachnoiditis are:

1. Rapid loss of vision, at first with normal fundi and later with simple optic atrophy.

2. Visual field changes, frequently central scotomas, early concentric contraction of the fields; bitemporal hemianopsis is rare or late.

3. Mild evidence of infection and an episodal rather than a steady progressive loss of vision.

4. Roentgenological Evidence: The sella is normal, and there are no osseous defects of this region. Air encephalography usually demonstrates a deformity of the chiasmatic cistern. The air shadows are not clear; occasionally the cisterna interpeduncularis and pontis are absent, deformed or encroached upon and structures usually seen within the cistern cannot be identified, as demonstrated by Pendergrass.

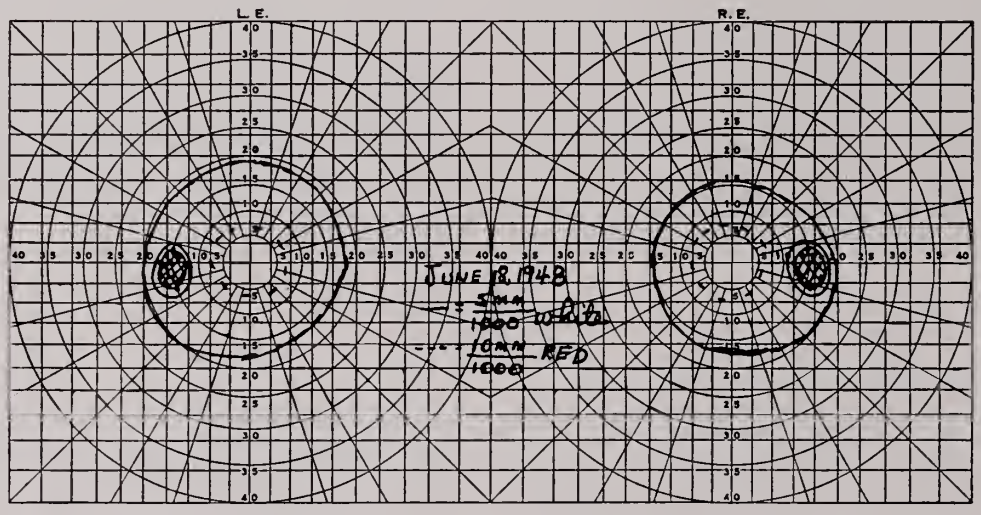

Fig. 1. (Raiford) Central fields showing generalized contraction. Vision OD 2/60. OS 2/60

5. Absence of signs of pituitary insufficiency.

6. Transfrontal headaches, and those of the retro-orbital type are present in about one-third of the cases. This usually is transitory and occurs in the earlier part of the disease.

The pathological findings are variable, from thin bands to that of arachnoiditis covering the entire

*Presented before the Section of Ophthalmology of the College of Physicians, Philadelphia, October 21, 1948.

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area in a thick layer. Circumscribed pockets of serous meningitis with cyst formation are seen, which may simulate a tumor mass. The optic nerves may be flattened or reduced in calibre; the color reveals atrophic changes.

The greatest frequency is from twenty to forty years of age, with a total of seven cases reported less than ten years old.

Medical treatment has been rather disappointing in these cases. The surgical approach has rendered the best therapy and should be done as early as possible in order to preserve the visual nerve elements.

CASE REPORT

The patient was an eight-year-old white male, admitted to the Graduate Hospital of the University of Pennsylvania on June 15, 1948.

creased, however, up to the time of hospitalization (mother's statement) of June of this year.

Family History: Parents have been in excellent health. One sister, normal.

SYSTEMIC REVIEW

Ent.: Tonsils had been removed at five years of age. The patient had complained of transitory frontal headaches that were noticeable by his mother in November and December, 1947. They were dull and diffuse in character. He has suffered with no headaches since that period.

Neck: Negative.

Heart and Lungs: Negative.

Abdomen: Appetite was good and bowel function normal. No history of nausea or vomiting.

Genito-Urinary System: Negative.

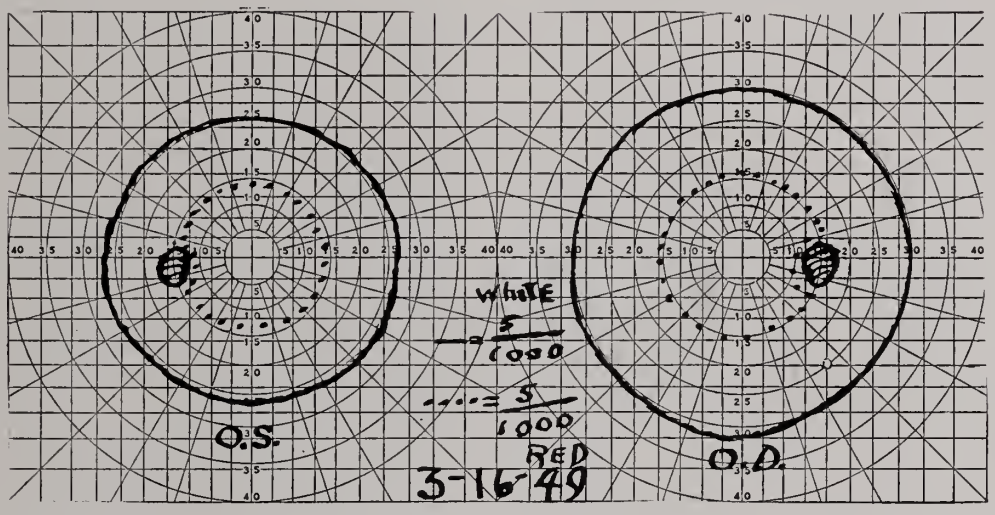

Fig. 2. (Raiford) Visual fields at 3-16-49. There is improvement in the white color fields. The blind spots are normal in size.

The *chief complaint* was that of poor vision in both eyes which was first noted in December, 1947. He had no history of any intercurrent disease, either opthalmological or systemic other than a fall which resulted in a contusion of the forehead without any noticeable effects in October. When returning to school after the Christmas vacation he noticed that he was unable to see the blackboard. There was no pain or redness nor any other symptoms. He was hospitalized from the middle of Feburary to mid-April. The diagnosis at that time was optic neuritis, having had spinal fluid examinations, six typhoid injections and multiple vitamins. These studies were repeated in another hospital and confirmed. The patient's visual defect gradually in-

Extremities: Negative.

Skin: Negative.

PHYSICAL EXAMINATION

The patient had no physical abnormalities other than that of ophthalmologic defects.

Eyes: There was no exophthalmos, ptosis or nystagmus. Pupils were round, central, reacted equally to light, accommodation and were consensual.

Tension: OD 17. OS 19.

Extra-Ocular movements were normal and full.

Lids and Lacrimal apparatus were normal.

Vision: OD 2/60. OS 2/60.

Refraction under atropine cycloplegic 6-17-48:

OD + .50 sph. = o cyl. = 2/60 pinhole 2/60
OS + .50 sph. = o cyl. = 2/60 pinhole 2/60

The patient complained of his vision being smoky.

Visual Fields: 6-18-48 (Fig. 1). There was concentric contraction of the central fields with slight enlargement of the blind spots. No scotoma was present. The patient could not see less than 5 mm. white test object clearly.

Sclera and Cornea: Normal.

Lenses: Were clear and normal.

Vitreous: Clear.

Fundi: The discs were pale bilaterally and both outlines were hazy. A binocular ophthalmoscopic examination was made and no evidence was present that suggested old papilledema. The blood vessels were normal with an arteriovenous ratio of 2 to 3. The macular area revealed slight pigmentation. The periphery was clear. No hemorrhages or exudates were present.

A neurological examination by Dr. Joseph Yaskin did not reveal any other abnormalities.

On June 18, 1948, x-rays were taken of the skull, orbits, sella and optic foramen and were negative. A ventriculo-encephalogram was done June 29, 1948, by Dr. Finkelstein and the following reported. "Only a small portion of the third ventricle is visualized and this is normal in size. The fourth ventricle was not visualized. No air can be seen in the basal cisterna or the subarachnoid pathways. We are, therefore, unable to exclude the presence of a posterior fossa lesion, such as a tumor or basal arachnoiditis."

In view of these combined findings a right frontoparietal craniotomy was done by Dr. Robert A. Groff on July 6, 1948, and a chronic arachnoiditis was found around the optic nerves and chiasma. There fibrous bands and adhesions were incised and the optic nerves freed.

The patient made an uneventful recovery and was discharged on July 13, 1948.

The patient was last seen on March 16, 1949 at which time the visual acuity had improved to OD 6/22.5, OS 6/7.5. The visual fields demonstrated considerable enlargement with the red field being within normal limits. Both fundi revealed some pallor of the discs and otherwise were normal. The patient had attended school throughout the year with the attainment of a high scholastic record.

SUMMARY

A case of optochiasmatic arachnoiditis in an eight-year-old male is reported. The condition was diagnosed from the history, clinical findings, and roentgenologic studies. Surgical exposure confirmed the diagnosis and following the liberation of the arachnoid adhesions about the chiasma the patient showed marked improvement of his visual acuity. The significant fact is that this is the youngest patient reported in the literature confirmed by surgery.

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THE TREATMENT OF BACTERIAL ENDOCARDITIS: REVIEW OF TWELVE CASES

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Wagner[1] has summarized the present status of the treatment of bacterial endocarditis from 521 cases reported prior to January, 1948. It seems clear that a knowledge of the organism present in the individual case is of primary importance. As emphasized by Oglesby[2] and others, there is little need from the therapeutic standpoint for the terms "acute" and "subacute".

We are presenting the experience with twelve cases observed at the Medical College of Virginia since 1944 when penicillin first became available.‡

General study was done on all patients. This included frequent urinalyses, blood counts and blood cultures; sedimentation rates; agglutination tests for typhoid, paratyphoid, brucellosis, tularemia, and against B. proteus X-19; various blood chemical determinations in different cases; electrocardiograms; and x-rays of the heart and lungs.

Prior to April, 1947, blood cultures were done by putting 5-10 cc. of blood in 50 cc. of veal infusion broth-agar and incubating at 37° C. Since that time the same amount of blood has been placed in 50 cc. of tryptose phosphate broth containing 50 mgm. of para-amino-benzoic acid. Gram stains were made every second day during the first week and at the end of the second week. If organisms were seen, sub-cultures were planted on blood agar plates. The colony characteristics on these plates determined the classification of the organism into the alpha, beta, and gamma groups. In one case further sub-classification was done by cultural methods.

The sensitivity of the organism to penicillin was determined as follows: Penicillin was diluted with saline and poured in blood agar plates so that they contained concentrations ranging from 50 to .0375 units per cc. From the original blood agar plate on which the classification was made the organisms were inoculated into blood broth and incubated for twenty-four hours. This culture was diluted 1-1000 with nutrient broth and planted on the above prepared penicillin blood agar plates. The sensitivity was considered to be between the concentration on which growth occurred and the next more concentrated where no growth occurred; thus, if growth was free on the plate containing 2.5 units per cc. and poor or none on that containing 5 units per cc., the report read "sensitive to between 2.5 and 5 units of penicillin per cc."

Blood levels of penicillin were obtained thus: Concentrations of the drug from 10 to .02 units per cc. were made. A twenty-four hour broth culture of a sensitive staphylococcus was diluted 1-1000 with plain broth, mixed with warm agar, and poured on plates. Small cylinders were placed on these plates and the dilutions of penicillin poured into them. The unknown serum was placed in similar cylinders on similarly prepared plates. When the inhibition of growth by the patient's serum was the same as that of a known penicillin dilution, the serum was reported as containing that many units per cc. This indirect method obviously does not determine the patient's penicillin activity against the organism causing his disease and it may well be that the procedure suggested by Schlicter and MacLean[3] will furnish more useful information.

The essential data are presented in the chart.

SUMMARY

In five instances of endocarditis caused by alpha hemolytic streptococci in patients presumed to have rheumatic heart disease, sterility of the blood was readily obtained with penicillin. In four cases the drug was given intramuscularly every two or three hours. In one (Case 2) continuous intramuscular drip was employed but had to be discontinued because of local tissue reaction; thereafter

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‡This report has been made possible by the cooperation of Drs. P. D. Camp, R. C. Cecil, James B. Darden, W. H. Higgins, R. R. Porter, W. B. Porter, and H. St. George Tucker.

CASE	Hospital Number and Date of Admission	Sex, Age, Race	Duration of Disease in Days	Preliminary Incident	Heart Lesion	Type of Organism	In Vitro Sensitivity	Daily Dose of Penicillin in Units	Days on Penicillin	Total Units	Blood Level Obtained Units Per cc	Clinical Course and Complications	Results
1 (L. S.)	A-47713 12/ 2/44	M 40 C	30	Extraction of teeth "Bad cold"	R H D Mitral and aortic	Alpha hemolytic strep.	Not done	160,000	4	550,000	Not done	*1 Clinical improvement, blood cultures positive. No more drug available.	Clinical evidence of renal and pulmonary infarction. Temperature to 101° F., at times, for no reason. Progressive heart failure with death six months after apparent recovery from infection. Blood cultures remained negative after third course. No autopsy permitted.
								120,000	5	575,000	Not done	Again improved, blood cultures positive. No more drug available.	
								320,000	6		Not done		
								240,000	38	11,000,000+	Not done	Marked improvement, blood cultures negative. *2	
2 (D. F.)	B-7926 6/17/46	F 54 W	35	None	R H D Mitral insufficiency Mitral stenosis?	Alpha hemolytic strep. (Salivarius)	0.015	400,000–500,000 *3	40	20,000,000+	Not done	Temperature normal on 6th day. Blood cultures became negative and remained so. Peripheral and cerebral emboli suggested after bacteriologic cure.	Died suddenly while talking to friends 90 days after treatment begun. No autopsy.
3 (D. T.)	B-21173 3/ 9/47	F 60 W	75	None	R H D? Mitral insufficiency?	Alpha hemolytic strep.	0.15–0.30	600,000	35	20,000,000+	0.1–0.5	Temperature normal in 24 hours. General improvement prompt. Petechiae periodically for 11 days after blood was sterile.	Well 15 months after treatment begun.
4 (R. K.)	B-24258 5/28/47	F 16 C	120	Tooth extraction "Bad cold"?	R H D Mitral insufficiency	Alpha hemolytic strep.	25.0–50.0	640,000 2,400,000	3 41	60,000,000+	Not done	Temperature normal on 5th day. During latter part of treatment there were several 2-3 day rises to 100.4° for no apparent reason.	Well 12 months after treatment begun.
5 (C. C.)	B-25853 12/15/47	M 28 C	14	None	R H D Mitral and aortic	Alpha hemolytic strep.	0.075–0.15	640,000	42	26,000,000+	0.5, 0.05, 0.2 *4	Temperature normal on 8th day; blood culture negative on 10th day. Occasional temperature to 99.6° over 1 month after blood became sterile.	Well 6 months after treatment begun.
6 (G. B. S.)	B-25628 5/15/47	F 36 W	60	Tooth extraction	Patent ductus arteriosus	Alpha hemolytic strep.	Not done	150,000–400,000	10	3,000,000+	Not done	Afebrile throughout hospital stay. Blood cultures became negative.	Relapse in 26 days.
						Alpha hemolytic strep.	Not done	300,000–600,000	28	12,000,000+	Not done	Again became positive 26 days after treatment was stopped. Again afebrile. Blood promptly became sterile and remained so. Ductus ligated under penicillin protection 31 days after blood showed no organisms. *8	Well 12 months since blood culture last positive, and 10 months since ductus ligated.
7 (E. C.)	B-30079 7/23/47	M 17 W	270	"Bad cold"	Patent ductus arteriosus and other indeterminate lesion	Alpha hemolytic strep	0.6–1.2	600,000–400,000	32	13,000,000+	0.5–1.0	Temperature exceeded 99° twice, once before treatment begun and again for 4 days, 2 weeks after blood had become sterile while still on penicillin. Ductus ligated under penicillin protection 88 days after blood culture negative. *8	Well 10 months after treatment begun and 9 months after ductus was ligated.

8 (O. L. O.)	A-66360 1/26/46	M 61 W	365 (?)	None	*5	Non-hemolytic strep.	5.0	200,000 320,000 600,000 960,000 *6	2 20 4 43	50,000,000+	0.32	Gradually downhill, with mental disturbance and dyspnea. Blood cultures always positive.	Died on 70th hospital day. Autopsy showed acute bacterial endocarditis, mitral valve, right auricle, and aortic valve with perforation; pulmonary congestion and edema; septic infarct of spleen containing cocci.
9 (N. E. B.)	B-30629 11/24/47	M 55 W	90	None	Patent ventricular septum	Non-hemolytic strep. Microaerophilic	25.0–50.0	1,200,000	52	60,000,000+	0.2–0.5 *7	Temperature normal in 48 hours. Blood cultures sterile thereafter. Temperature to 101° for 4 days, 3 weeks after blood was sterile. *9	Well 7 months after treatment begun.
10 (C. G.)	B-13104 9/16/46	M 25 C	30	Injury to foot	R H D Mitral stenosis	Not recovered		600,000	6	3,600,000+	Not done	Rapidly downhill, dyspnea, orthopnea, and findings indicative of cerebral embolism.	Died on 9th hospital day. Autopsy (brain not permitted) showed mitral stenosis with subacute bacterial endocarditis, mitral valve, aortic valve, and left atrium; cocci present; pulmonary edema; focal embolic nephritis superimposed on chronic pyelonephritis; and splenic infarction (aseptic).
11 (B. B. C.)	B-12729 12/28/46	F 10 W	90(?)	None	R H D Mitral stenosis	Not recovered		800,000	96	76,000,000+	Not done	Gradual general improvement with normal temperature and gain in weight but continued embolic phenomena. Massive cerebral embolus on 94th hospital day.	Died on 96th hospital day. Autopsy showed chronic mitral valvulitis (probably rheumatic fever); subacute bacterial endocarditis, mitral valve, gram positive cocci present; heart's blood culture negative: extensive fibrosis of myocardium; infarcts of spleen, kidneys, and brain; and chronic passive congestion and edema of lungs.
12 (L. S.)	B-17631 12/ 1/46	M 46 W	42	None	R H D? Mitral and aortic	Not recovered		360,000 720,000 1,200,000	9 10 15	28,000,000+	Not done	Transient early improvement with later recurrence of sepsis, pulmonary infarction? and cardiac failure.	Died on 71st day after admission. No autopsy obtained.

*1—Patient received sulfadiazine, 6 grams daily, intermittently.
*2—Received heparin for four days.
*3—Received 500,000 units daily as continuous intramuscular drip for 22 days, resulting in indurated site with temperature 102°; intermittent intramuscular injection used thereafter.
*4—Received caronamide, 4.0 grams every four hours, practically throughout treatment. Effect on blood level not determined.
*5—Aortic valve lesion—See autopsy report.
*6—Received benzoic acid, 2.5 grams T.I.D., and sulfadiazine, 6.0 grams daily.
*7—Level rose from 0.2 to 0.5 after seven doses of caronamide, 2.0 grams every three hours.
*8—Operation by Dr. I. A. Bigger.
*9—Nineteen teeth extracted in four sittings one month after blood became sterile. Socket cultures showed N. catarrhalis, alpha hemolytic streptococci, and E. coli.

intermittent intramuscular injection was used. In one patient (Case 1) clinical but not bacteriological recovery was obtained twice with small doses; subsequently, larger and more protracted dosage resulted in sterility of the blood; however, this patient progressively declined and died from cardiac failure six months after treatment. In three patients (Cases 1, 2 and 3) petechiae and/or embolic phenomena were noted several days to weeks after the blood cultures showed no growth, and in one of these (Case 2) the manner of death suggested embolism (no autopsy permitted). In Cases 1 and 4 there were short periods of inexplicable elevation of temperature after recovery seemed to have taken place. Blood levels of penicillin were obtained in two cases. In one (Case 3) the level equalled that to which the organism was sensitive *in vitro;* in a second (Case 5) the level was five times greater than the sensitivity in the laboratory. In Case 4 the sensitivity test suggested the need for 25 to 50 units of penicillin per cc. Although no levels were done in this case, experience in others made it unlikely that any such levels were reached with the 300,000 units q. 3 h. used. In all three recovery was prompt and has persisted.

There were two cases of endocarditis due to alpha hemolytic streptococci in patients with patency of the ductus arteriosus. In one (Case 6) temporary recovery was obtained with intermittent intramuscular penicillin, followed by relapse in twenty-six days with clinical and bacteriological recovery after retreatment with larger and more protracted dosage. Before the elapse of sufficient time for the evaluation of this second course the congenital defect was repaired and the patient has been well for ten months; in the other recovery was prompt and has persisted for ten months after treatment was begun and nine months after the ductus was ligated, despite the probable presence of some other defect or defects. This second patient had an inexplicably elevated temperature for four days, thirteen days after the penicillin had been started and more than a week after the blood had become sterile.

There were two cases of endocarditis due to nonhemolytic streptococci. Recovery was prompt in one (Case 9) although the blood levels appearing necessary from laboratory study were not approximated. The level obtained appeared to be doubled following the administration of caronamide[4]. In the other (Case 8)‡ there was a gradual downhill course with death from sepsis and cardiac failure. Here also the blood levels obtained were less than those indicated as necessary by *in vitro* testing. However, the discrepancy was not as great as in Case 9, who recovered.

In three cases of endocarditis where the clinical course made this diagnosis certain (two proven at autopsy) but no organisms were obtained, there were no recoveries. One (Case 10) died from heart and kidney failure plus a possible cerebral embolus before therapy could be adequately tried; a second (Case 11) improved and appeared to be recovering, only to die from a cerebral embolus after she had seemed well for three weeks; and the third (Case 12), after temporary clinical improvement, succumbed to sepsis, heart failure, and possible embolism.

General Observations

1. Sterility of the blood and clinical recovery was obtained in endocarditis due to the alpha hemolytic streptococcus by the injection of penicillin intramuscularly at 2 to 3 hour intervals. When relapses occurred, there was subsequent response to larger and more protracted dosage by the same route.

2. The clinical results did not run parallel with the *in vitro* determinations of sensitivity and blood levels by the methods used.

3. Despite recovery from the infection, death ensued from progressive heart failure in one case.

4. Petechiae and/or embolic phenomena occurred after apparent clinical and bacteriological cure. These did not necessarily have any bearing on the ultimately good result; on the other hand, death appeared to result from such an embolus in one case.

5. Elevations of temperature took place after the blood had become sterile. They appeared to be of no significance.

6. Death occurred in the three patients from whose blood no organism was recovered.

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William Potts Dewees was the first great American obstetrician. His *Compendious System* of *Midwifery* went through twelve editions. It was largely instrumental in turning American obstetrics from slavishly following the English school to the French school—the abandonment of the lateral obstetrical position for the dorsal. Thoms, writing in 1933, is surprised at "the small amount of real progress that has been made in obstetrical science since his time."

Dewees was of Swedish descent. He was apprenticed to Dr. William Smith of Philadelphia and graduated B.M. at the U. of Penn. in 1789. He began practicing in the village of Abington, just outside of Philadelphia. It was here in September 1789 that he first noticed the effect of bleeding on the course of difficult labor. This patient had a history of very difficult labors, many of her babies being delivered with the crotchet. At the onset of the present labor she had a severe hemorrhage from the lungs and to everyone's astonishment she had a quick easy labor. He reasoned "it could be from no other cause than relaxation, produced by the excessive and alarming haemorrhagy. I quickly resolved to take advantage of this kind hint, by endeavoring to imitate this good example." His subsequent experience in Abington confirmed his surmise and when in 1793 after the great yellow fever epidemic, he returned to Philadelphia to practice and to get his M.D. degree, he chose as his graduation thesis, *The means of lessening pain, and faciliating certain cases of difficult parturition.* (95 pp. 1806). This gained for him so great a reputation that he became a candidate for the newly created chair of midwifery which was established in the University of Pennsylvania in 1810.

THE TREATMENT OF POST THROMBOPHLEBITIC SEQUELAE IN THE LOWER EXTREMITIES*

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Thrombophlebitis refers to a partial or complete occlusion of a vein by a thrombus accompanied by an inflammatory reaction in the wall of the vein. Serious sequelae follow thrombophlebitis of a large vein, such as the ilio-femoral, and this paper is concerned with a discussion of these sequelae and their treatment. It is necessary to understand the pathology of the acute thrombophlebitic episode and the subsequent course of events in order to appreciate the syndromes that may follow.

During the first twenty-four to forty-eight hours after thrombophlebitis is initiated, the thrombus occludes the vein and return of blood through the vein is impossible. Increased venous pressure occurs peripheral to the obstruction and capillary pressure is so increased that osmosis is in the direction of the tissue spaces. Capillary anoxemia is likewise present and resorption of tissue fluid and crystalloids is inhibited. The associated venitis and perivenitis initiated impulses which irritate the lumbar sympathetics and vasoconstrictor spasm occurs in the peripheral arterioles. Capillary anoxemia is further aggravated and edema increased. Lympathic channels caught in the perivenous inflammation become obstructed. Increased lymphatic pressure results in dilatation of the lymphatic capillaries. The lymphatic system is thus prevented from performing its normal role of removing tissue fluid and proteins; and lymph in dilated lymphatics increases the leg swelling even more.

As thus envisioned, three factors—venous obstruction, arteriolar spasm, lymph stasis—contribute to the leg swelling of acute ilio-femoral thrombophlebitis or milk leg. During the acute venous obstruction, venous return is maintained through the collateral venous channels, mainly through the long saphenous and its tributaries. Usually within a few days dilatation of these superficial veins is apparent. Venous pressure in the saphenous system is increased threefold as the result of its overload.

The above described state of affairs rarely persists over a few days. Soon clot retraction occurs and some restoration of the lumen of the femoral vein results. Pressure in the veins of the leg distal to the obstruction gradually decreases. Resolution of the thrombus begins within a few weeks and soon the femoral system is more or less patent again. But the involved segment rarely returns to normal. The vein walls remain thickened, the valves damaged and incompetent. Blood flows again through the femoral system, but the rate is retarded and chronic venous insufficiency results. The saphenous system is relieved of its overload, but the once dilated veins fail to resume their normal size and tone, and varicose veins result. Subsidence of the inflammatory reaction in the perivenous tissues relieves the lymphatic traffic block in the groin and drainage through the lymph channels again occurs with further reduction in the leg edema.

Arteriolar spasm likewise usually disappears although occasionally it persists for long periods of time, producing a causalgic-like state, as later described. Recanalization of the thrombus, resulting in restoration of venous flow, probably occurs in 95% of cases of ilio-femoral thrombophlebitis. However, permanent damage to the venous and lymphatic system becomes evident as soon as the patient becomes ambulatory. Only the orthostatic factor is needed to bring out the telltale signs of a previous episode of ilio-femoral thrombophlebitis—leg edema from foot to groin with a characteristic "thick" feeling in the thigh. Should the edema be uncontrolled, vigorous growth of fibroblasts occurs in the protein rich tissue fluid. This results in further obstruction of the circulatory channels, especially lymphatic, with ever increasing edema. Varicosities appear in the damaged saphenous system. Fibrous tissue invasion of the subcutaneous tissues further hypertrophies the extremities. Years later fibrous contraction results in indurated cellulitis, the formerly swollen parts now being quite shrunken and woody hard. Nutrition of the covering skin is impaired due to the chronic venous insufficiency, and anoxemia. Eczema, dermatitis, epidermophytosis, episodes of lymphangitis streptogenes, and indolent leg ulcers begin to complicate the picture.

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The sequelae of an attack of acute ilio-femoral thrombophlebitis will depend on the extent of the initial pathology and the adequacy of the treatment of the acute episode plus the efficiency with which the subsequent edema tendency is controlled. We recognize the following post thrombophlebitic states:

1. Chronic venous insufficiency;
2. A causalgia-like state;
3. Chronic hypertrophy and edema;
4. Varicosities of the saphenous system secondary to deep vein thrombophlebitis;
5. Recurring lymphangitis streptogenes;
6. Recurring deep vein thrombophlebitis;
7. Chronic indurative cellulitis;
8. Indolent leg ulcer.

Chronic Venous Insufficiency. This is evidenced by very slight bluish coloration of the skin and mild orthostatic edema. The leg appears entirely normal after a few hours of recumbency. A novocaine block of the lumbar sympathetic ganglia performed even several weeks or months after the acute attack may be remarkably effective in improving the leg. Or a thin elastic stocking is sufficient to control the edema. The role of spasm in producing the edema may be determined by an Ochsner test. The patient is asked to walk a given distance—say a mile—and then measurements are made of the circumference of the affected limb. A novocaine paravertebral block of the related lumbar sympathetics is then performed. After waiting about thirty minutes to obtain full vasodilatation, the patient is asked to walk again a mile and the limb measurements are taken thereafter. A reduction in measurements indicates a considerable spastic element in the causation of the edema and repeated novocaine blocks or a lumbar sympathectomy are in order.

Causalgia-Like State. In this syndrome the gross sequelae of the acute ilio-femoral thrombophlebitis seem minimal, but the patient complains of severe pain in the extremity. The pain complex becomes firmly established early in convalescence. There is usually a stocking-like paraesthesia and evidence of vasomotor disturbance—sweating and coldness of the extremity. Presumably the diseased femoral or iliac vein has continued to over-stimulate the sympathetic system, prolonging the peripheral vasospasm, initiated by the acute episode. Again paravertebral novocaine injections of the sympathetics may be entirely curative. Or a lumbar sympathetic ganglionectomy may be in order.

Chronic Hypertrophy and Edema. (Elephantiasis). The extremity is enormous from foot to groin—a condition called elephantiasis. Orthostatic edema aggravates the picture, but the enlargement is present even after bed rest. The condition results from failure to control completely the edema of the acute and convalescence stage. The hypertrophy is due to fibroblastic proliferation in the edematous tissue and is permanent. The only effective treatment is surgical removal of the affected soft parts—subcutaneous tissue and fascia—by a Kondoleon procedure. Recent modifications of this operation are described by Pratt and Wright and Vots, Barnes and Pratt. Unless repeated attacks of lymphangitis streptogenes, local thrombophlebitis, or epidermophytosis have complicated the picture, the skin in these cases is relatively normal. Primary wound healing may be expected after most extensive procedures. This is to be contrasted with chronic indurative cellulitis, subsequently to be described, in which skin grafting must often supplement the Kondoleon procedure because of the presence of eczema, ulceration, devitalized skin.

Varicosities of the Saphenous System Secondary to Ilio-Femoral Thrombophlebitis. Reference has been made to venous return by way of the saphenous system during the acute deep vein obstruction. This frequently results in newly formed varicosities or aggravation of a pre-existing varicose state. Peculiar as it may seem, permanent dilatation of the saphenous system, that is to say, varicose veins, may constitute the most serious sequela of the deep vein disease. Thanks to modern clarification of the post thrombophlebitic state, we can usually eradicate these varicosities by methods now employed in the non-phlebitic leg. For years a past history of "milk leg" was listed as a contra-indication to saphenous system surgery because of the belief that the deep vein system has been permanently occluded and that the superficial system is needed for venous return, no matter how varicosed. We now know that the affected deep veins recanalize within a few months in the great majority of cases. Contrary to performing a useful purpose, the varicosities actually increase the chronic venous insufficiency and should be eradicated. Our present plan is to wait approximately a year after the acute attack and perform a high saphenous ligation, or high ligation and stripping, followed by sclerother-

apy of any remaining varicosities. Tests are always performed, of course, to detect the occasional case in which the deep vein has remained occluded, contraindicating saphenous ligation. Persistent occlusion of the deep venous channels may be suspected if Perthes' test is positive, if a tight elastic support aggravates the patient's symptoms, if there is evidence of advanced deep vein insufficiency, as indicated by extensive collateral varicosities across the lower abdomen. Occasionally study by venography may be needed to clarify the situation.

Recurring Lymphangitis Streptogenes. An edematous leg is particularly susceptible to bacterial invasion. The patient who has had ilio-femoral thrombophlebitis and disregards the subsequent leg edema is inviting infection. Epidermophytosis, eczema, and ulceration will render the leg even more vulnerable. The streptococcus is the usual offending organism and a typical attack may be described as follows: The chronically edematous leg suddenly becomes much more swollen. The involved skin, usually of the lower leg only, becomes hot, raised and fiery red. The skin appearance is so akin to that of erysipelas that the term "erysipeloid" has been applied to it. Constitutional symptoms—high fever, chills, prostration—are present. With or without therapy the attacks usually subside in five to ten days, but therapy can greatly shorten the attack and lessen the permanent damage that would otherwise occur, for the pathology is a streptococcal infection of the superficial and deep lymphatics of the skin and subcutaneous tissue, and each attack damages more lymphatics, leaving the limb more edematous and more susceptible to further episodes.

It is, therefore, important to institute treatment promptly and vigorously. Our treatment is as follows: We make an initial painting of the involved skin with 20% silver nitrate solution, followed by an application of voluminous wet dressings of the same solution in dilution of 1 to 20,000, the extremity being highly elevated on an inclined plane, and large doses of penicillin are given parenterally. Treatment is not discontinued until every vestige of edema and infection is eradicated. We discharge the patient with a careful explanation of the invariable recurrence unless a strong elastic support is worn and the extremity kept scrupulously clean. Sulfadiazine, grains fifteen, four times daily for a week of each month, or penicillin therapy for a like period may be necessary to prevent further attacks. Desenex powder or ointment is prescribed for cases initiated by epidermophytosis.

Recurring Deep Vein Thrombophlebitis. Occasionally a patient who has had ilio-femoral thrombophlebitis will be subject to recurring episodes. Attacks more or less similar to the original one recur from time to time. This may be coincident with a possible cause such as an operation, childbirth, or a debilitating disease. Or the attacks may come on spontaneously while the patient is ambulatory and leading a normal life. The extremity swells from foot to groin, tenderness is present along the course of the femoral vein and constitutional symptoms occur. The patient usually has to be treated as she was in the initial attack, with large warm compresses, leg elevation, lumbar sympathetic novocaine blocks and anti-coagulent therapy. We feel that these cases represent instances of an abnormal clotting tendency or severe damage to the wall and valves of the femoral system and believe that superficial femoral vein ligation should be performed at the beginning of the recurring attack or after it has subsided. Only in this way can further episodes be prevented, and, more important, the inevitable chronic indurative cellulitis, next to be discussed, be prevented.

Chronic Indurated Cellulitis. This is the late result of neglected thrombophlebitic edema. Most commonly it is a sequela of ilio-femoral thrombophlebitis, but an identical condition can develop from repeated episodes of local thrombophlebitis in varicose veins. Years of uncontrolled leg swelling have permitted extensive growth of fibroblastic tissue which now has contracted, as is the wont of all scar tissue, to produce permanent induration and fibrosis. Attacks of lymphangitis streptogenes or episodes of thrombophlebitis in local varicosities have contributed to the damage. Such a leg presents a characteristic appearance. The tissues, formerly the most edematous, are now the most contracted, so that the lower leg appears quite narrow as contrasted with the hypertrophied calf and ankle. The skin is discolored and shining and the subcutaneous tissue feels woody hard. Very little pitting edema is now present. Here and there a venous sinus may be found, but most varicosities have been obliterated by previous thrombosis. Scars of old ulcers may be seen, or an indolent leg ulcer may be present.

We feel that conservative therapy has little to offer these patients. A period of bed rest may tide over the attack of dermatitis or cellulitis, or heal an early ulcer. Unna paste boots or elastoplast bandages worn for many weeks may temporarily reduce the leg swelling, and add comfort to the patient. Large indolent ulcers may be similarly made to heal but the healing is rarely long lived, for irreversible unalterable structural changes exist in the skin and soft parts. Chronic venous insufficiency, anoxia, fibrosis, destruction of lymphatics, thrombosed veins, calcified fat and fascia form a formidable pathological background. The congested skin rests upon fibrosed subcutaneous tissue which is in turn compressed between the hidebound skin and a stonelike deep fascia. One hardly could expect to restore such a leg to normalcy by any form of treatment, for it is the result of years of neglect. However, no matter how extensive the skin, the subcutaneous tissue, and the fascial damage is, the structures beyond the fascia are invariably remarkably normal. Muscles are red, well vascularized and non-edematous. Tendons and bones are uninvolved. These facts have led me to employ a modified Kondoleon operation for these cases of chronic indurated cellulitis.

The procedure consists essentially of removing all damaged tissue, skin, subcutaneous fat and fascia, and placing normal skin on normal muscles with no intervening subcutaneous bed or fascia. The steps in the operation are as follows: a longitudinal incision is made through the center of the indurated tissue. This usually involves an incision from the internal malleolus to a point several inches below the inner aspect of the knee joint. No tourniquet is applied. The incision is rapidly deepened through the fibrosed calcified subcutaneous tissue and through the deep fascia until the sub-fascial space gaps wide open. Normal muscles and tendons are exposed. The full thickness flaps of skin, subcutaneous tissue and fascia are now readily stripped back to the tibial crest anteriorly and the mid-line posteriorly. Perforating veins, usually incompetent communicators, are clamped and divided. The flaps are now turned out and the deep fascia is incised from within out, the whole length of each flap, thus delineating the wedge of tissue on each side to be removed. Allis clamps are now applied to the skin edges and Ochsner's to the fibrosed subcutaneous tissue and each flap pared of all subcutaneous tissue and fascia. If the long saphenous has not by now been removed it is now stripped. All bleeders are clamped and coagulated with the Bovie apparatus. A few stab wounds are made near the edge of each flap for drainage. The skin flaps are inspected for viability. Should this seem good, excess skin is simply excised and the skin margins approximated with continuous fine dermal. The flaps are pox-marked to remove tension and small penrose drains are placed through the stab wounds previously made.

Should insufficient normal skin be left for primary closure without tension the skin edges are tacked down to the underlying muscles and a split thickness graft applied to cover the defect. The graft is sutured in place with fine silver wire and covered with xeroform gauze. Flat gauze, moistened in saline solution, is applied to furnish even compression. A sterile catheter is inserted within the dressing, further compression obtained with mechanic's waste or sponge rubber and the leg wrapped firmly with an ace No. 8 leg bandage. A posterior metal splint is applied. The graft is kept moist by injecting glycerine 15% acetic solution ¼% alternating with tyrothricin solution (0.5 mgms. per cc.) through the sterile catheter every eight hours. This prevents pyocyaneus infection and facilitates drainage. The first dressing is usually on the 7th post-operative day. Stitches are not removed until the flaps are well healed, or about the 10th day. An Unna paste boot is often applied before the patient becomes ambulatory.

This operation removes all the diseased tissue—devitalized skin, calcified fat, fibrosed subcutaneous tissue, the contained thrombosed veins, the stagnant venous and lymphatic pools, and the thickened binding fascia. Whereas the cosmetic results are not perfect, the permanent results are good. Subsequent leg edema is minimal and indolent ulcers practically never again develop.

The Indolent Ulcer. The post-thrombophlebitic ulcer represents a breakdown of the devitalized skin and subcutaneous tissue of chronic indurated cellulitis, which we have just described. It differs from a simple varicose ulcer in that the venous congestion is aggravated by incompetency of the deep and communicating veins. The lumen of the femoral vein, once occluded, is again patent; but its valves are damaged. High back pressures are transmitted down the leg through the deep venous sys-

tem when the patient stands, lifts or coughs. The valves of the communicating veins are unable to withstand these pressures and are likewise incompetent. As varicose veins are usually also present, there is thus a three-fold cause of the venous congestion—back flow in the femoral system, in the communicating veins, and in the varicosed saphenous. Little wonder that the ulcer, embedded in indurated fibrosed tissue and bedeviled by passive congestion plus lymph stasis resists healing or invariably recurs after healing. The surgical approach to the problem is still far from satisfactory, but a better understanding of the pathology involved has improved our results. Homans in 1916 recommended excision of the ulcer, interruption of the communicating veins, and subsequent skin grafting of the ulcer bed. Linton in 1938 described a procedure which interrupted the communicating veins and eradicated the varicosities at the same operation. Buxton and his associates in 1944, and Buxton and Coller in 1945, reported beneficial results from femoral vein interruption in the post-thrombophlebitic state. Homans in 1946 recommended ligation of both the femoral and the saphenous veins when both are found to be diseased. Following through Homan's suggestions, Linton in 1947 recommended superficial femoral vein interruption, and simultaneous saphenous ligation and stripping for the treatment of post-thrombophlebitic sequelae. There were 34 patients in Linton's series. Twenty-one of these had a history of leg ulcer and in twenty of these the ulcer had remained healed two to fourteen months after the surgery. Twenty-four of Linton's cases had pre-operative edema and the edema was improved post-operatively in fourteen. Only one patient in a group of ten without pre-operative edema developed swelling subsequent to the operation.

Linton's procedure is applicable only when the deep venous system can be demonstrated to be incompetent as by the Trendelenburg test or venography. The Trendelenburg test is performed with the tourniquet just below the knee in these cases. Rapid filling of the veins from below indicates backflow in the femoral system and incompetent communicating veins. Linton deferred surgery until the ulcers were temporarily healed by elastoplast bandages, bed rest and so forth. His operation is as follows:

The superficial femoral vein is exposed distal to the profunda, and the saphenous vein at the femoro-saphenous junction. A needle is inserted into the superficial femoral vein and the venous pressure in this vein is recorded. First the superficial femoral vein proximal to the needle, and then the saphenous is temporarily occluded. Should the venous pressure not rise above 30 cm. saline, both the superficial femoral and the saphenous are ligated. If venous pressure rises above 30 cm. saline, either the femoral or the saphenous is interrupted, but not both. The decision as to which vein to interrupt depends on the results of the Trendelenburg test and the venous pressure readings in the superficial femoral when the femoral or the saphenous is compressed. Linton adds stripping out of the entire saphenous system to his procedure, feeling that this is necessary to prevent recurrence of the varicosities and to interrupt indirectly the incompetent communicating veins.

I feel that the Linton operation falls short in one respect—the failure to remove the devitalized skin, indurated subcutaneous tissue, calcified fascia beneath and about the ulcer. The ulcer heals over a bed incapable of maintaining skin nutrition and the ulcer is bound to recur.

Our present practice in the treatment of these post-thrombophlebitic ulcers includes the following steps: 1. Ligation and division of the superficial femoral if the Trendelenburg test indicates incompetency of the deep veins and communicators. 2. Ligation and division of the saphenous and its branches at the femoro-saphenous junction if the long saphenous system is varicosed, and a like procedure in the popliteal space if the short saphenous is varicosed. 3. Eradication of the varicosities down to the upper limits of the area of chronic indurated cellulitis by vein stripping. 4. Excision of the area of chronic indurated cellulitis, as previously described. 5. Wide excision of the ulcer, including removal of the underlying fascia. 6. Simultaneous or deferred split thickness skin grafting.

Our method of excising the ulcer contrasts sharply with the usually described procedure of cutting around the margins of the ulcer, and through the ulcer bed and awaiting the development of a granulation tissue before skin grating. It consists of unequivocal removal of the ulcer and all underlying tissue down to the muscle. An incision is made through the indurated tissue several inches above

the ulcer margins. This incision is deepened to and through the fascia, as described in the operation for chronic indurated cellulitis. The fingers are then slipped under the fascia and the ulcer-containing-tissue elevated off of the muscles. The ulcer and all underlying tissue—fibrosed subcutaneous bed, thickened fascia, and contained damaged blood vessels—are now readily removed by an elliptical incision to either side, encircling the ulcer. If extensive indurated cellulitis is present the primary incision is extended upwards and the diseased tissue pared from each flap. The operation is completed by suturing the upper part of the incision and applying a split thickness graft directly to the muscles now presenting at the former ulcer site. If the ulcer has been badly infected, or if considerable oozing has occurred, the lower portion of the wound is packed and grafting is deferred for several days.

SUMMARY

The post-thrombophlebitic sequelae of the lower extremities are discussed. A fairly satisfactory surgical procedure for a late and morbid sequela—chronic indurated cellulitis—is described. Superficial femoral vein ligation is advocated as a part of the therapy of the post-thrombophlebitic state when the Trendelenburg test indicates incompetency of the deep and communicating veins. A program for the indolent post-thrombophlebitic ulcer is described, which includes femoral and saphenous vein ligation and saphenous vein stripping, local removal of the tissues involved in chronic indurative cellulitis, excision of the ulcer, and skin grafting. A method of excising indolent ulcer which definitely removes all underlying damaged tissues and permits of primary skin grafting on normal muscle is presented.

100 Medical Arts Building.

Antibiotic Drug for Typhoid Fever.

Treatment of typhoid fever with the relatively new antibiotic drug, chloromycetin, is so effective that patients generally are clear of fever three or four days after the drug is first administered, according to an article in the September 10th *Journal of the American Medical Association.*

"Continued experience reveals that fever disappears during the first three or four days of treatment," Drs. Joseph E. Smadel and Charles A. Bailey of the Army Medical Department Research and Graduate School, Washington, D. C., and Dr. Theodore E. Woodward of the University of Maryland, Baltimore, say.

"Our early observations brought out that relapses of typhoid were common in treated patients. In order to eliminate such occurrences, we have prolonged the course of treatment. Analysis of the results obtained in 44 patients with typhoid who received chloramphenicol [chloromycetin] under our observation has indicated a striking relation between the duration of chemotherapy and the incidence of relapses. A clinical relapse occurred in seven of the 13 patients whose initial course of drug was given for eight days or less. None of the members of another group of 19 patients suffered relapses; this group was comparable to the first in essentially all respects, except that treatment was continued for nine to 14 days. A third group consisting of 12 patients, was treated for 14 to 23 days; relapses did not occur among these patients. All patients in the first group who had relapses responded satisfactorily when chloramphenicol treatment was again instituted.

"These results warrant the following conclusions. Chloramphenicol should be administered in adequate amounts for more than eight days to patients acutely ill with typhoid if relapses of the disease are to be avoided. There appears to be little advantage in continuing treatment for more than 14 days."

PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Disease Control of the State Department of Health for September 1949 as compared with the same month in 1948, and for the period of January through September 1949 compared with the same period in 1948, is as follows:

	Sept. 1949	Sept. 1948	Jan.-Sept. 1949	Jan.-Sept. 1948
Typhoid and paratyphoid	15	16	105	109
Diarrhea and Dysentery	971	547	4,889	3,317
Measles	39	67	21,276	6,130
Scarlet fever	58	28	514	639
Diphtheria	14	16	106	159
Poliomyelitis	85	152	246	410
Meningitis	7	6	73	73
Brucellosis	13	9	55	69
Rocky Mountain spotted fever	11	2	97	60
Tularemia	3	4	28	45

CERTAIN EPIDEMIOLOGIC ASPECTS OF POLIOMYELITIS

In an article in the *Texas State Journal of Medicine* for July 1949, Dr. Gaylord Anderson* has so clearly outlined the currently accepted thinking regarding the method of spread of poliomyelitis, that we quote his summary:

"I have pointed out many analogies between the occurrence of demonstrable poliomyelitis and the common infections of childhood which we tend to accept as well understood phenomena. In particular have I drawn comparisons with measles because of a belief that a close analogy exists between the epidemiology of those two diseases. If we were lacking the rash by which each case of measles can be recognized and were forced to base our diagnosis on the cases of pneumonia, otitis, or encephalitis that occur as complications, we should have a vastly different concept of measles than that which currently prevails. There is, I believe, strong evidence to support the belief that poliomyelitis virus infection is as widespread as is measles, that most of us respond well to the infection through the development of satisfactory resistance, but that a few are so constituted physiologically that they respond badly and are paralyzed. It is in the study of these physiologic variants that I believe we shall find our most fertile field of research."

This concept of the common occurrence of poliomyelitis is also advanced by Hart Van Riper, Medical Director of the National Foundation For Infantile Paralysis, who states "it is now clear that the majority of us become infected at some time during life with the virus of poliomyelitis. The clinical disease and the infection are not the same thing. The disease is rather an exceptional result of the infection."

The acceptance of the theory that the virus of poliomyelitis is so widespread that contact for all is sooner or later inevitable, puts it in the category of childhood diseases like mumps, measles and chickenpox and makes most of our present attempts at control seem feeble and inadequate.

The final control of poliomyelitis depends, in our opinion, upon the production of an effective immunizing agent.

*Dr. Anderson is Mayo Professor and Director, School of Public Health, University of Minnesota, and, with Margaret G. Arnstein, author of the text "Communicable Disease Control".

RESOLUTION PASSED BY THE STATE BOARD OF HEALTH ON THE RESIGNATION OR DR. LAWRENCE T. ROYSTER

WHEREAS, Dr. Lawrence T. Royster resigned as a member of the State Board of Health, September 17, 1949,

BE IT RESOLVED: That the Board recognizes his wise counsel, faithful service and sincere interest over a period of thirty-five years, during which period public health has been advanced from a minor to a major responsibility of Government; and further,

That the Board hereby desires to express its appreciation for his warm personal friendship and devotion to his responsibilities and duties as a member; and further,

That a copy of these resolutions be spread on the minutes of the State Board of Health.

September 29, 1949

BOOK ANNOUNCEMENTS

Aesculapius Comes to the Colonies. The Story of the Early Days of Medicine in the Thirteen Original Colonies. By MAURICE BEAR GORDON, M.D. Ventnor Publishers, Inc., Ventnor, N. J. 1949. xiv-560 pages. Illustrated. Cloth. Price $10.00.

This is a well worthwhile treatise on Colonial medicine. The author takes up each colony separately and precedes his medical discussions with a brief story of its civil history. In the general introduction there is an account of Indian medicine, but it does not appear that the doctors in any of the colonies were influenced by this type of medicine. The author has something to say about practically every medical man in the English Colonies. The work has a good index and should prove a valuable reference work to all who are interested in medical history.

The medical man varied a great deal in the 13 Colonies, but seemingly they had one thing in common and that was a tendency to combine the practice of medicine with other employments. In New England most preachers practiced medicine. This was also true in New Jersey and several congregations complained of the size of the medical fees their preachers charged. In New Hampshire many doctors of medicine became judges. The majority of colonial doctors were apprenticed trained. An amusing story is told of Primus, a slave of Alexander Wolcott. Primus accompanied Wolcott in his visits to the sick and helped in the preparations of the medicines. After many years Wolcott set Primus free and the negro immediately set himself up as a doctor and prospered. On one occasion he was called to see a neighbor of Wolcott's and on leaving the house he called on the doctor and told him that he had just seen his neighbor's child, found it to be a very simple case and had told the mother that it was not necessary for her to send so far for a doctor for Dr. Wolcott would have done for the child as well as anyone else.

Benjamin Franklin is included among the Pennsylvania doctors not because he practiced medicine, but because he founded the first hospital in America and because he was interested in all forms of knowledge as was Thomas Jefferson in Virginia. Franklin's keen insight into human nature and his practical common sense is illustrated by his saying "Quacks are the greatest liars in the world—except their patients." John Wesley is included among the Georgia doctors because he wrote his *Primitive Physick* while he was in Georgia. This little work went through twenty-three editions in Wesley's lifetime and nine others after his death. I was interested to learn that John Wesley assisted in the first postmortem examination performed in Georgia and that George Whitfield established the first hospital and the first free clinic in that state.

There are a few small errors that should be corrected in the next edition. On page 458 after describing the first meeting of Washington and Mercer in the expedition against Fort DuQuesne, there is a statement that "It was Mercer who advised Washington to make Virginia his residence." It also says that Mercer's consultation room and apothecary shop were still standing in 1908. The author might say that it is one of the show places in Fredericksburg. On page 48 "Mr. Eise", the professor of anatomy at St. Thomas' should be "Mr. Else". My only real criticism is the bibliography. It serves no useful purpose except as a demonstration of the wide reading of the author. If the reader wishes to pursue a subject further he gets little help from the bibliography. For instance, I would like to know why the disease that killed off the Indians and so made possible an unopposed landing of the Pilgrims in 1620, was considered to be bubonic plague. I would like also to know more about the epidemic of syphilis that spread among the men, women and children of Boston which started from an ulcer of a nursing mother's breast. In the first instance I imagine that John Brown's article on The Epidemics of the Indians of New England in 1616-1620, Johns Hopkins Hospital Bulletin 20, 1909, would be the place to look. In the second case there is no clue whatever.

M. P. R.

EDITORIALS

Our New President

WALTER CLEVELAND CAUDILL was born in Alleghany County, North Carolina, June 9, 1888. He was educated at Elk Creek High School, Elk Creek, Virginia, and the Appalachian State Teachers College, Boone, North Carolina. In 1913 he was graduated from the Medical College of Virginia. He interned at Lewis-Gale Hospital, Roanoke, and St. Elizabeths Hospital, Richmond, and located in Pearisburg in 1914.

WALTER CLEVELAND CAUDILL, M.D.
President, Medical Society of Virginia

Dr. Caudill served with the Medical Corps of the U. S. Army and was overseas for 18 months; he was discharged as a Captain in July 1919 and returned to Pearisburg where he has since continued his practice. He was married to Miss Mary Ring Cornett, Elk Creek, Virginia, in 1920 and they have one son, Carrel Mayo Caudill, M. D.

Dr. Caudill has had a varied experience in civic and medical affairs of Giles County. One of his important activities was the establishment in Pearisburg of St. Elizabeths Hospital in 1924, which he has since operated. He assisted in the organization of the local Lions Club and is one of its past presidents. He was the first president of the Bank of Giles County and is now its vice-president and one of its directors. Dr. Caudill is a past-president of the Southwestern Virginia Medical Society and is a Fellow of the American College of Surgeons. Although he is best known for his medical work, he is equally distinguished in the political field. He served for 15 years as Chairman of the Democratic Party in Giles County, and is

now a member of the Ninth District Democratic Committee and the State Central Committee. He was elected to the House of Delegates of the State of Virginia in 1936 and again in 1938. In 1940 he became a member of the State Senate and is at present serving in this capacity. He is also Chairman of a Legislative Commission created by the 1948 session of the General Assembly to study Medical Education in the State.

He has played an active role in the organization and plans for a modern new 50-bed hospital, which will be erected in Pearisburg within the next year.

For the past several years, Dr. Caudill has rendered invaluable service to the Medical Society of Virginia as Chairman of its Legislative Committee. During this time the Society has won all its important legislative bills and has gained, in addition, added prestige and understanding for the medical profession.

President-Elect Caudill assumes the duties of his office at a critical time for the private practice of medicine. The time is not far distant when the doctor and the legislator, without bitterness or emotionalism, must attack the problem and find the solution of better medical care for *all* the people. The Society is truly fortunate to secure the leadership of one who has spent his entire life so near his people, who understands their everyday problems and who bears the genuine admiration and respect of his community. He brings to the Society the perspective of a "grass-roots" physician, the acumen of a successful politician and the innate ability to reconcile differences and to "get things done". These attributes should stand the Society well for the forthcoming year.

—J. P. K.

The Consumer Must Decide

The Consumers' Research Bulletin for September carries an excellent editorial on Compulsory Health Insurance from the standpoint of the consumer. It is so good that we were tempted to copy it in full. It is pointed out that the American consumer has long been used to making his own choice as to how his dollars for products and services are to be spent. Paying for medical and hospital care is an expenditure that does not give consumers a sense of pleasure and well-being as does the purchase of a new automobile, a television set or a fine steak. The successors of the O.P.A. ideologists have seized on this fact in their attack on the consumer's method of handling his hospital and doctor's bills. The U. S. proponents of compulsory health insurance have skillfully disguised the compulsion aspect by referring to their program as "National Health Insurance" and their goal is better health for the entire nation.

The problem for the consumer is further complicated by "as shrewd an advertising and promotional campaign as was ever put on by patent medicine manufacturers in their palmiest days." Furthermore it is difficult for a consumer to form a fair idea of what the plan will cost, the quality of medical care he will get or how the plan has worked in other countries. There are eight volumes or nearly 5,000 pages of reports of the hearings before the 79th and 80th Congresses. *The Consumers' Research Bulletin* suggests that the consumer read Mr. Kenneth C. Crain's analysis of the material which was published in *Hospital Management* for January 1939.

The United States Consumers must say whether they want the Federal Government to have the *power* to decide how much of their income *must* be sent to the United States Treasury for medical care. "Can they judge from the sales claims whether the new product will be better than the one they are now using? The

decision is in their hands, but it will be in the hands of politicians, if consumers do not seriously and promptly, concern themselves with the problem."

British Health Service from a Druggist's Standpoint

The American Druggist devotes its July number to a consideration of the British State Medicine. It is a very attractive issue. The editor, John W. McPherrin, spent five weeks in England studying how the plan is working. He reports that the druggists in England are divided. Those who were doing well before July 5, 1948, are against it and those who were doing poorly are for it. The average price for a prescription in England is now fifty cents as compared to the average United States price of $1.40. The average retailer is receiving 50 per cent more for "government" prescriptions than he did under the old National Health Insurance, but an average of 25 per cent less than he received for private prescriptions. The pricing of prescriptions is done by a central Bureau or Pricing Offices. The druggist sends all prescriptions to this office. He must do them up in two bundles, one for special prescriptions and appliances and for prescriptions whose ingredients cost more than a dollar and the second for the ordinary prescriptions.

Mr. McPherrin interviewed a great number of British customers. The average Briton wanted this program very much. Today he is reluctant to admit that there is anything wrong with the scheme for fear it will reflect upon his own good judgment. In his editorial Mr. McPherrin says that after five weeks in Great Britain he comes back home with a new reverence for the faith of mankind that created America. He says the dictum "The State is my Shepherd, I shall not want" which is the real concept of the Welfare State, has done something to the British spirit.

Bibliotheca Obstetrica

ROSSLIN, EUCHARIUS (d.1526) Der Swangern frawen und hebammē roszgartē. Hagenau, H. Gran. 1513.

The earliest printed textbook for midwives. It survived forty editions, being used as late as 1730. An English translation by Richard Jonas was published in 1540, printed by Thomas Raynalde. This translation, entitled *The Byrth of Mankynde,* was the first book on the subject to be printed in English. For a bibliographical study of the work, *see* Sir D'Arcy Powers' article in *The Library,* 1927. Series 4, viii, 1-37.

The text and pictures are derived from classical times—Soranus and Muscion, as they came down through the Middle Ages in MSS. Gustav Klein in his facsimile edition (Munich, 1910) gives about all that is known of the author. From 1493 to 1498 he was listed as apothecary in the city of Freiburg i.B. and was listed as a house owner until 1526. In 1506 he became city physician of Frankfurt. In 1508 he is known to have visited the Countess Katharine of Braunschweig and Luneburg and it is to her that he dedicated his book. In 1513 he was city physician in Worms but in 1517 he was back in Frankfurt as city physician with a salary of 70 fl. a year. He died in September 1526.

Besides the "byrth figures" the work is noteworthy for reviving Soranus' podalic version. It is also responsible for the myth that Julius Caesar was named Caesar for having been cut from his mother's side.

SOCIETIES

The Southwestern Virginia Medical Society

Held its regular semi-annual meeting October 6, at the Governor Tyler Hotel, Radford, with a good attendance, and several new members were elected. In addition to papers by members, the guest speaker was Dr. Karl J. Karnaky of Houston, Texas, who spoke on Pelvic Endometriosis. There was an attendance at the afternoon session of about thirty-five and at the banquet of 105.

Dr. Harry Hayter of Abingdon was elected president for the coming year; Dr. James P. King of Radford, vice-president; and Dr. A. F. Giesen of Radford, was re-elected secretary-treasurer. The two members elected to the Executive Committee are Dr. D. S. Phlegar of Blacksburg and Dr. Harry W. Bachman of Bristol.

The next meeting will be held in Abingdon in May 1950, the exact date to be named later.

Fairfax County Medical Society.

At a meeting of this Society on September 17th, the following officers were elected: President, Dr. J. D. Zylman; vice-president, Dr. H. Garnett Snead; treasurer, Dr. Emanuel Newman; and re-elected secretary, Dr. Alice H. Kiessling.

Lynchburg Academy of Medicine.

At the regular meeting of the Academy on October 3, Dr. Kenneth L. Pickeral of Duke University School of Medicine gave an interesting talk, illustrated with a movie, on "The Modern Treatment of Burns".

Roanoke Academy of Medicine.

New officers of the Academy, who took office at the October meeting, are: President, Dr. M. A. Johnson, Jr.; vice-presidents, Drs. John Gardner and Churchill Robertson; secretary-treasurer, Dr. W. H. Kaufman. Drs. W. R. Whitman, Sr., and Charles Smith were named as members of the Executive Committee.

The Virginia Peninsula Academy of Medicine

Resumed its monthly meetings in September following the summer recess. The guest speaker was Dr. Julian Ruffin, Clinical Professor of Medicine and Director of the section of Gastro-enterology at Duke University, whose subject was the Value of Laboratory Aids in the Differential Diagnosis of Jaundice. He stressed the fact that every doctor sees an occasional case of jaundice where it is impossible to make an exact diagnosis without the aid of these tests. Failure to make a correct diagnosis will result in a dangerous and unnecessary operation or deny to the patient surgical aid which is badly needed. The speaker gave illustrations of many cases pointing out the value of the laboratory test in each.

The meeting which was preceded by a social hour and dinner was attended by 73 physicians throughout the Peninsula and neighboring counties. Dr. Russell Buxton, president for the coming year presided.

WILLIAM A. READ,
Secretary

NEWS

Afterglow!

The 102d meeting of the Medical Society of Virginia has passed into the halls of memory. We hope that you all enjoyed yourselves. Judging by the way you looked and by what you said, we believe that you were most happy to be at Old Point Comfort.

The management of the Chamberlin Hotel outdid itself in its efforts to please. Your hosts, the Warwick County and the Elizabeth City County Medical Societies, are gratified that all went so smoothly. It has been 69 years since you were last at Old Point Comfort. In the meantime we have gotten out of practice in the art of being hosts to the Medical Society of Virginia.

The only cloud on the festive scene was the enforced absence of our beloved President, Dr. M. Pierce Rucker of Richmond. In July 1947, Dr. Rucker and I were among the American obstetricians who attended the International Congress of Obstetricians and Gynecologists at Dublin, Ireland. This Congress celebrated the 200th anniversary of

the Rotunda Hospital. I shall always remember the parting words of Dr. O'Donel Browne, one of the secretaries of the Congress and at present the Master of the Rotunda. He said, "Do not wait another 200 years before coming back to Dublin."

On behalf of the medical profession of the Virginia Peninsula, I want to say to the Medical Society of Virginia: Do not wait another 69 years before coming back to Old Point Comfort!

CHESTER D. BRADLEY, M.D.

Another Banner Meeting.

The Warwick and Elizabeth City County Medical Societies, under the chairmanship of Dr. Waverly R. Payne, with Dr. Paul J. Parker as co-chairman, put on such a meeting after sixty-eight years, that it appeared that they were accustomed to staging the State Society meetings every few years. The fact that the Chamberlin at Old Point, with its excellent management, was headquarters, added to the pleasure of those attending. The one thing which kept the meeting from being perfect was the absence of the President, Dr. M. Pierce Rucker of Richmond, who was prevented by personal illness from attending and taking part.

Business sessions were held as usual and there were several guest speakers at the scientific sessions—Dr. Wilburt C. Davison of Durham, N.C., Dr. Mark M. Ravitch of Baltimore, Dr. Arthur T. Hertig of Boston, and Dr. Robert Lomax Wells of Washington. Exhibits—both scientific and technical—were of a high class.

Awards were made the following scientific exhibits for their originality and method of presentation: First, "Lead Glass Fabric. Protective Against Roentgen and Beta Rays" by Drs. V. W. Archer, George Duncan, Jr., H. D. Hebel, John G. Kroll and D. A. Cunningham of the University of Virginia, Charlottesville; Second, "Getting Well in a Mental Hospital" by Department of Mental Hygiene and Hospitals, Eastern State Hospital (Dr. Granville L. Jones), Williamsburg; and Third, "The Effect of Brain Stimulation on Blood Pressure and Kidney Circulation" by Drs. Ebbe Curtis Hoff, Jos. Kell, Jr., Nelson Hastings, Edwin H. Gray, and Dillard M. Sholes, Jr., of Medical College of Virginia.

The House of Delegates selected Dr. Henry W. Decker of Richmond to be nominated to the American Medical Association as the General Practitioner of the Year.

At the general meeting on Monday evening, eighteen physicians became members of the "50-Year Club", the Society thus honoring its members who had been engaged in the practice of medicine for fifty years.

Apart from the boat trip around Hampton Roads, social features were centered in the cocktail party and banquet on Tuesday evening, with Dr. E. L. Alexander as master of ceremonies. Following the banquet, several much appreciated songs were given by the Crusaders Chorus, directed by the professor of music at Hampton Institute. Honorable Joshua W. Lee of Oklahoma was the speaker on this occasion.

Roanoke was selected for the 1950 meeting and the following officers were elected: President-elect, Dr. C. Lydon Harrell of Norfolk; and vice-presidents, Drs. Waverly R. Payne, Newport News; James P. Williams, Richlands; and James W. Love, Alexandria. Dr. Walter P. Adams of Norfolk was elected to succeed Dr. Harrell for his unexpired term on the Council. Dr. W. C. Caudill of Pearisburg succeeded to the presidency.

American Medical Association.

Advance registrations and hotel reservations are now being received for the 1949 Clinical Session—the third annual mid-year meeting of the A.M.A.—to be held in Washington, December 6-9.

Requests for reservations should be made before November 9 and sent to the Chairman of the Subcommittee on Hotels, American Medical Association, Hotel Reservation Bureau, Star Building, Washington 4, D. C.

The Clinical Session will provide a full-scale scientific program specifically designed for the general practitioner. Coordinated with this outstanding scientific program will be approximately 100 scientific exhibits which will present original work on the subjects discussed.

The newest offerings of 125 manufacturing firms will comprise the Technical Exposition. Here will be found the latest developments in scientific medical research, drugs and equipment.

The clinical sessions and the exhibits will be held in the National Guard Amory, Capitol Avenue and East 19th Street. The exhibit hall will be open throughout the meeting, 8:30 a.m. to 6 p.m., giving ample opportunity to study the latest additions to modern medical practice.

Televised surgical and clinical procedures, similar to those shown in color at the A.M.A. annual sessions in Atlantic City last June, will be presented at the Washington meeting. The demonstrations will originate in the Johns Hopkins Hospital and will be shown on screens in the armory.

The House of Delegates will meet at the Hotel Statler during this session. One of the first orders of business will be the annual selection of the general practitioner who has made an exceptional service contribution to his community. A gold medal will go with the honor.

For the convenience of doctors making advance registrations and reservations, The Journal of the American Medical Association is publishing in its advertising section every week, convenient hotel reservation and advance registration blanks. Listed also are the leading hotels and their rates.

Gill Memorial Spring Graduate Course.

The Twenty-Third Annual Spring Graduate Course of the Gill Memorial Eye, Ear and Throat Hospital, Roanoke, will be held April 3-8, 1950. The guest faculty is as follows: Dr. F. W. Stocker, Durham, N. C.; Dr. Conrad Berens, New York City; Dr. Fred Wilson, Chicago; Dr. C. W. Mayo, Rochester; Dr. Edmund B. Spaeth, Philadelphia; Dr. Arthur J. Bedell, Albany, N. Y.; Dr. James J. Regan, Boston; Dr. W. Gayle Crutchfield, Charlottesville; Dr. Stuart Cullen, Iowa City; Dr. Richard G. Scobee, St. Louis; Dr. Daniel S. Cunning, New York City; Dr. Alson E. Braley, New York City; Dr. Karl M. Houser, Philadelphia; Dr. Hugo L. Bair, Rochester; Dr. Gabriel Tucker, Philadelphia; Dr. Edward M. Walzl, Baltimore; Sir Alexander Fleming, London, England; Dr. J. Barrett Brown, St. Louis; Dr. Walter B. Hoover, Boston; and Dr. Oscar C. Hansen-Pruss, Durham, N. C.

Site Given For Richmond Memorial Hospital.

"Laburnum", the home for four generations of the Bryan family has been offered and accepted as the site for the new 300-bed hospital in Richmond, to become part of a living memorial to those Richmonders who lost their lives in the second World War. It consists of fourteen acres and the home on Westwood Avenue, valued in excess of $125,000. It has recently been owned by Mr. and Mrs. David Tennant Bryan, who are giving it as a memorial to his grandfather, Joseph Bryan, and his father, John Stewart Bryan, both of whom had devoted so much of their lives to the betterment of the community. It was built by Mr. Joseph Bryan in 1885 and rebuilt by Mr. John Stewart Bryan after it was destroyed by fire in 1908. Mr. and Mrs. Bryan plan to vacate the property at the convenience of the hospital.

Plans call for a campaign for public subscriptions during the coming winter and additional funds required for the project will be sought under the Hill-Burton Act after the campaign ends.

Dr. Hellebrandt Gets Scholarship.

Dr. Frances Hellebrandt, Medical Director of the Baruch Center of Physical Medicine of the Medical College of Virginia, has been awarded a $750.00 scholarship for specialized study and training in the treatment of cerebral palsy. This scholarship is awarded jointly by Alpha Chi Omega, national woman's fraternity, and the National Society for Crippled Children and Adults. Dr. Hellebrandt has begun scholarship study at the Children's Rehabilitation Institute, Cockeysville, Maryland.

Dr. Morgan Raiford,

Formerly of Franklin, Va. has accepted a position as Clinical and Research Director at the Brady Clay Memorial Eye Clinic, Emory University School of Medicine, Atlanta. For the past three years, he has been at the University of Pennsylvania and in July received his Master of Medicine Science in Ophthalmology.

Winchester Memorial Hospital Staff Conferences.

The following staff conferences are scheduled at the Memorial Hospital, Winchester, and are open to all physicians who desire to attend:

November 16th—The Annual Hunter H. McGuire Lecture—"The Eye in Thyroid Disease" by Dr. John H. Dunnington, Professor of Ophthalmology, College of Physicians and Surgeons, Columbia University, New York City.

January 18th—"Obesity, a Challenge to the Practitioner" by Dr. William Parson, Professor of Medicine, University of Virginia.

February 15th—Dr. George T. Finney, Associate Professor of Surgery, Johns Hopkins Hos-

pital, School of Medicine, Baltimore. Subject to be announced.

March 15th—"Recent Advances in Otology and the Treatment of Deafness" by Dr. Fletcher D. Woodward, Professor of Otolaryngology, University of Virginia.

April 5th—The Annual Frank N. Hack Lecture —"Diagnosis, Surgery and Outlook in Cancer of the Right Colon" by Dr. C. W. Mayo, Head of Section in Division of Surgery, Mayo Clinic, Rochester.

May 17th—Clinical-Pathological Conference by the Staff of the Hospital.

The Medical College of Virginia,

Beginning its one hundred thirteenth session this year, has the largest enrollment in its history, with 1331 students registered. Of the schools, medicine has the largest enrollment with 354 students, 84 of whom are freshmen and 254 are veterans. There are 27 women enrolled in medicine.

Fracture Meeting.

The Regional Fracture Committee of the American College of Surgeons of Western Pennsylvania will meet at the University Club, Pittsburgh, on November 16th. There will be a conference on fracture problems and Dr. Harold A. Sofield, Chicago, will speak on "Medullary Nailing of Fractures". All members of the profession are invited to this meeting.

Urology Award.

The American Urological Association offers an annual award of $1,000.00 (first prize of $500.00, second prize $300.00 and third prize $200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

The first prize essay will appear on the program of the forth-coming meeting of the American Urological Association, to be held at the Hotel Statler, Washington, D. C., May 29-June 1, 1950.

For full particulars write the Secretary, Dr. Charles H. de T. Shivers, Boardwalk National Arcade Building, Atlantic City, N. J. Essays must be in his hands before February 20, 1950.

Dr. James Smith Honored.

On September 19th at the Commonwealth Club, Richmond, Drs. Margaret Nolting, Hunter H. McGuire, Douglas Chapman, H. S. Zfass, J. Powell Williams, Kinloch Nelson, H. Joseph Williams, W. T. Thompson, Jr., William H. Harris, Jr., and John P. Lynch, ten of the former students and colleagues of Dr. James H. Smith, gave a birthday dinner in his honor and invited some of his personal friends. Guests included partners in the McGuire Clinic, and Drs. Wyndham B. Blanton and William B. Porter.

Dr. Smith was presented with a silver tray and eight silver cups, inscribed as follows: "Presented to James H. Smith, M.D., in grateful appreciation by those he has trained and inspired."

Dr. J. Powell Williams was toastmaster.

Dr. Smith's response was characteristic and appropriate.

The Division of Alcohol Studies and Rehabilitation

Of the State Department of Health has arranged a one-day symposium on Rehabilitation of Alcoholics to be held on Tuesday, December 6, at the Baruch Auditorium, Medical College of Virginia. There will be morning, afternoon and evening sessions beginning at 9:30 a.m., 2:00 p.m., and 8:00 p.m.

Nationally known authorities have been secured for this symposium, including Dr. Robert Fleming of the Harvard Medical School and Director of the Alcohol Clinic at the Peter Bent Brigham Medical School, Boston, Massachusetts; Dr. Joseph Hirsh, author and member of the Committee on the Problems of Alcohol of the National Research Council; Dr. Giorgio Lolli, Medical Director of the Yale Plan Clinic; Dr. Harvey B. Haag, Dean of the Medical College of Virginia and member of the Division's Advisory Committee; Dr. Raymond G. McCarthy, Executive Director of the Yale Plan on Alcoholism; and an outstanding representative of Alcoholics Anonymous. There will also be a discussion of the Virginia approach to this problem.

The meeting will be opened to the public and is designed to be of particular interest to physicians, educators, public health workers, ministers, and persons concerned with social problems.

State Department of Health News.

Dr. Joseph W. Still has resigned as health of-

ficer for the Frederick-Winchester Health District to enter the field of research. Dr. Paul B. Chapman has been appointed health officer to replace Dr. Still in the Frederick-Winchester Health District.

Dr. Stuart T. Bray has been appointed health officer for Buchanan and Tazewell counties.

Dr. Wilbur R. Southward, Jr., has been appointed Director of the Bureau of Venereal Disease Control of the State Department of Health.

Dr. Edward F. Corson,

A member of the teaching staff at Jefferson Medical College, Philadelphia, since 1920, has been appointed head of the department of dermatology at the college. He has been professor of dermatology since 1947.

Southern Psychiatric Association

The forthcoming meeting of the Southern Psychiatric Association will be held in New Orleans, Monday and Tuesday, November 28-29 at the Roosevelt Hotel. During this meeting papers will be presented by guests and local speakers on topics relevant to neuropsychiatry and allied subjects. An entertainment program will be enjoyed by all attending and this is in the hands of the Committee on Arrangements.

The Medical College of Virginia is somewhat honored by having two of its Alumni holding office during next year's regime, Dr. Walter J. Otis, being President and Dr. R. Finley Gayle, President-elect.

The other officers of the Association are: Dr. R. Burke Suitt, Durham, N. C., Vice President; Dr. Arthur J. Schwenkenberg, Dallas, Texas, Chairman, Board of Regents, with Dr. Joseph L. Knapp, Weston, W. Va., Dr. O. S. Hauk, Nashville, Tenn., members of the Board of Regents; and Dr. Newdigate M. Owensby, Atlanta, Ga., Secretary-Treasurer.

Dr. E. G. Gill,

Roanoke, has recently been made a member of the Omicron Delta Kappa, a national honorary leadership fraternity.

Dr. Darius Flinchum,

Formerly of Stonega, is now on the orthopedic staff of Duke Hospital, Durham, North Carolina. He has a Fellowship from the National Poliomyelitis Foundation.

Dr. G. Everard Godman,

Recently of Chilhowie, is now serving as assistant resident in surgery at the De Paul Hospital, Norfolk. He plans to remain there for at least twelve months.

Post Graduate Medical Instruction at the University of Virginia.

General Practice as a Medical Specialty was discussed by Dr. William L. Pressly, Due West, South Carolina, on September 26th at the University of Virginia. He was the first speaker on the 1949-50 program of graduate medical instruction for house officers and staff members of the University Hospital. Dr. Pressly received the gold medal of the American Medical Association, at its last meeting, for exceptional service by a general practitioner.

Harvard Medical School supplied three doctors as speakers during October. On the 3rd, Dr. Louis K. Diamond spoke on Present and Future Uses of Blood and Blood Derivatives in Therapeutics. On the 24th, Dr. Reginald Fitz presented a birdseye view of Modern Medical Practice, and on the 31st, Dr. Frederick C. Robbins was the speaker.

Van Meter Prize Award.

The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held in Houston, Texas, March 9, 10 and 11, 1950, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy in duplicate sent to the Corresponding Secretary, Dr. George C. Shivers, 100 East St. Vrain Street, Colorado Springs, Colorado, not later than January 15, 1950. The committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author, if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association.

Richmond Gives Free Tests For Diseases.

Seventy-five thousand Richmonders will be given the opportunity during the next ten months to undergo free tests for seven chronic diseases. This has been made possible by a grant-in-aid from the United States Public Health Service, and the campaign will be conducted by the City Health Department and various local agencies. All who wish it will be given tests for heart disease, diabetes, tuberculosis, obesity, anemia, high blood pressure and syphillis. It will be possible to run 450 tests daily and no individual will be required to spend more than 15 minutes in taking the tests. Results will be forwarded to the family physician for interpretation to the individual.

The Neuropsychiatric Society of Virginia

Is holding its fall meeting at 2:00 P. M. Wednesday, November 2, in Roanoke at the Hotel Roanoke. Dr. James B. Pettis, Superintendent of Western State Hospital, Staunton, is president.

Dr. Harry C. Solomon, Professor of Psychiatry at Harvard Medical School, and Medical Director of Boston Psychopathic Hospital will speak on "Psychiatric Treatment And Its Results." All Psychiatrists and interested physicians are cordially invited to attend Dr. Solomon's lecture.

The Society's professional and business meeting will be concluded by a Social Hour and Dinner that evening at the Hotel Roanoke.

The Council on Industrial Health,

Of the American Medical Association, will hold its tenth annual Congress on Industrial Health at the Roosevelt Hotel in New York City, February 20 and 21.

Spotsylvania Health Board.

This county which has been without an active health board foi about ten years, has arranged to resume this work and the county supervisors have named a board composed of Dr. W. H. Johnson of Spotsylvania and several laymen.

National Conference on Sight.

The National Society for the Prevention of Blindness will hold a five-day conference in conjunction with the Interim Session of the Pan-American Association of Opthalmology, MARCH 26-30, 1950, at the Floridian Hotel, Miami Beach, Florida. The theme of the meeting will be *The Americas Unite to Save Sight,* and among the subjects to be discussed are: Current blindness prevention programs in countries of the Western Hemisphere; Trachoma; Industrial ophthalmology; Eye problems of school children; Medical and social management of the glaucomas.

Persons directly or indirectly concerned with eye health and safety will find this conference of interest. Details concerning the program may be obtained by writing directly to the National Society for the Prevention of Blindness, 1790 Broadway, New York 19, N. Y.

Reservations should be made in the near future with the Floridian Hotel, 540 West Avenue, Miami Beach, Florida.

Doctor!

Important messages are presented in the advertisements in the MONTHLY regularly, and some ads emphasize services rendered and commodities offered that may be used in your practice—in your office and in the home. Your interest in these encourages advertisers to continue their patronage of your journal. When you send inquiries, wont you say that you saw their advertisement in the VIRGINIA MEDICAL MONTHLY?

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OBITUARIES

Dr. David C. Morton,

Retired physician of Richmond, died October 13 at the age of 71. He was graduated from the University of Pennsylvania and practiced medicine in Louisville for a number of years before moving to Richmond. Although not engaged in private practice since he moved to Richmond, he was connected with the McGuire Veterans Hospital. His wife survives him.

Dr. Russell B. Bailey,

President-Elect of the West Virginia State Medical Association, died of a coronary occlusion on September 15th. He was fifty-one years of age. Dr. Bailey would have taken office on January 1st as president of the Association.

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SUCCESS, whether measured by achievement, confidence gained, or by monetary standards, comes largely through achievement and maintenance of competence. A physician, like persons engaged in other fields of endeavor, must keep abreast of the latest developments and methods in his field in order to maintain competence.

THE SOUTHERN MEDICAL ASSOCIATION was founded in 1906 for the purpose of developing and fostering scientific medicine and surgery in the South and in its forty-three years of existence has never deviated from this objective. Through attending the annual meetings of the Southern Medical Association and by reading The Southern Medical Journal, thousands of physicians of the South are taking an important step toward achieving and maintaining their competence in the constantly changing field of medicine.

REGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there is always a program at the meeting and articles in the Journal to challenge that interest.

THE MEETING this year will be composed of thirty-two sessions of the twenty-one sections, two General Clinical Sessions and two conjoint meetings. Eligible members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of $5.00 include the Southern Medical Journal, a journal that should be a "must" on every physician's reading list.

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CONTENTS

Guest Editorial. Claude C. Coleman, Richmond, Va. 611

The Early Recognition of the Psychoses. P. H. Drewry, Jr., M.D., Richmond, Va. 613

Malignant Lymphoma: A Clinico-Pathologic-Radio-Therapeutic Classification. P. F. Sahyoun, M.D., S. J. Eisenberg, M.D., and F. B. Mandeville, M.D., Richmond, Va. 620

Acute Non-Specific Pericarditis—Report of Five Cases. Robert H. Sease, M.D., and Julian R. Beckwith, M.D., Clifton Forge, Va. 629

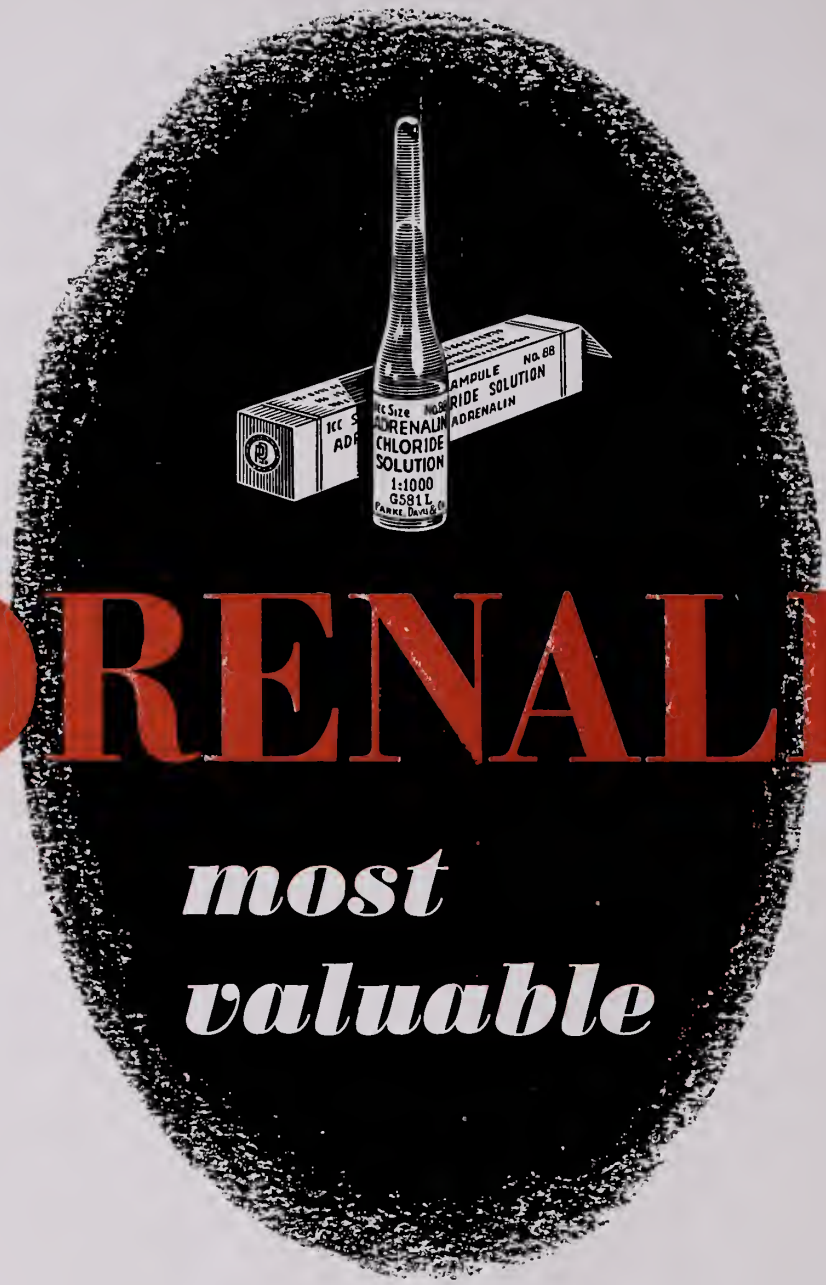
The Need for Continued Treatment and Control of Venereal Diseases. James M. Suter, M.D., M.P.H., Abingdon, Va. 638

Aluminum Foil as a Dressing for Burns. William A. Johns, M.D., Richmond, Va. 640

Continued on page 6.

LOUIS PASTEUR ISSUE

December, 1949



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GUEST EDITORIAL

A Matter of Professional Ethics

THE medical profession and the laity have very different conceptions of the reasons for a code of medical ethics. The medical profession in its highest purpose believes among other things that the practice of medicine should have a code of ethics to protect the welfare of the public, to advance the science and art of medicine and to regulate the conduct of physicians who may be jointly interested in the care of a patient. There is a practical reason for a code of ethics in the practice of medicine and when medical ethics has no direct bearing on the welfare of the patient and does not tend to advance medical science, it has no very valid defense and cannot long survive. The lay public often criticizes the ethics of medicine, and mistakenly regards it as a secret code which the doctor follows for his own selfish advantages.

In recent years the term "professional" has been extended to include other occupations than those of law, medicine and the ministry. One of the most popular professions today is that of baseball, but such a profession differs vastly from that of medicine. While the physician is justified in making a living out of medical practice, he is, at the same time, or should be, vitally concerned with the public welfare. The main purpose of the professional baseball player is to make money.

The greater the control of medicine by government, the greater will be the sacrifice of medical ethics and ideals. The practice of medicine under government control will reduce a once learned profession with high ideals to the level of any salaried occupation.

It is not the purpose of this article to go into a discussion of medical ethics in general but to mention one feature which occurs with increasing frequency in this community and which tends to detract from a proper ethical relationship among physicians.

In this day of specialization, frequent consultations are required. It may not be feasible for the doctor requesting the consultation to be present when the patient is examined by the consultant. The writer believes that a great deal was sacrificed in the value of consultation when this custom was practically abandoned for time-saving purposes. As a matter of fact, practically the only joint consultations now held are on cases in litigation when the patient's attorney wishes his medical representative, and often himself, to be present at the consultation. This type of consultation is usually not very satisfactory.

In connection with consultations and the ethical relationship incident thereto, the writer wishes to cite the following example for consideration. A general practitioner in a distant town refers a patient to a surgeon to verify or rule out a surgical lesion. In his study of the case the surgeon finds it desirable to have the opinion of a specialist in another field and such consultation is requested. After examining the patient, the second consultant sends the patient home and reports directly to the family physician, without mentioning this to the surgeon and without explaining to the family physician how he happened to be in on the case. The general practitioner may never have heard

of this second consultant. It is at once apparent just what this action might lead to. The patient is confused and does not know where to turn for information. The general practitioner feels that the surgeon, to whom he sent the patient, has taken no interest in the case, not having made any report, while the surgeon is left in an embarrassing position indeed. Often in such cases, conflicting opinions are given to the general practitioner, adding to the general confusion and dissatisfaction.

In the writer's opinion, it is the duty of the consultant to make his report only to the physician requesting the consultation. The consultant should also recognize the difference in a request for examination and a request to take over the management of the case.

Of course, incidents such as described above may be prevented by the simple procedure of not referring patients to those consultants who persist in this practice but it seems the matter should be considered by the profession, for the good of the patient and for the promotion of better feeling among consultants and the profession as a whole.

CLAUDE C. COLEMAN

Medical College of Virginia
Richmond, Virginia

Bibliotheca Obstetrica

JASON A PRATIS, 1486-1558. (Also known as Jason van de Velde, Jason Pratensis and Jason van de Meerche)

De Pariente et partu liber Ant. 1527, (ML). This is the second work on obstetrics. It is extremely rare, no other copy being listed in the Union Catalogue of the Library of Congress. I have a translation in ms. by Herbert Spencer. It gives a contemporaneous description of ante- intra- and post-partum care, breech delivery, the kneeling posture, care of the infant, instillation of oil into the infant's eyes, etc. Jason is skeptical about the influence of odors upon the behavior of the uterus, contrary to the belief generally held at the time.

Jason was born in Zyriksee in the island of Zeeland in 1486 and died in his native town in 1558. Apparently he studied at the University of Louvain and in Antwerp under the Surgeon Marturus Hessel. He became body physician to Maxmillian of Burgundy. At one time he was alderman or sheriff of Veere. He published

"De uteris libri duo", Ant. 1524, Amst. 1657.

"De Pariente et partu" Ant. 1527, Amst. 1657.

"De arcenda sterilitate et progignendis liberis" Ant. 1531, Amst. 1657.

"De tuenda sanitate libri quatuor" Ant. 1538.

"De cerebri morbis liber" Basel 1545.

"Sylva carunium adolescentiae" Ant. 1530.

THE EARLY RECOGNITION OF THE PSYCHOSES*

P. H. DREWRY, JR., M.D.,
Associate Professor of Psychiatry, Medical College of Virginia,
Richmond, Virginia.

Not infrequently some tragedy occurs which dramatically brings to the attention of the profession the fact that a psychotic individual has not been recognized as such. These incidents are exemplified by the suicide of an individual with an unrecognized psychotic depression, or perhaps a murder committed by a patient with an unsuspected paranoid reaction. Fortunately, such distressing incidents are not everyday occurrences, but frequently the psychiatrist sees patients whose chances of recovery from a psychosis have been jeopardized by too long a delay in recognition, or a patient who has been put to the expense of an operation for what actually was a psychotic symptom. This statement is not intended as a criticism, however, for it is a well known fact that in many medical schools, even now, the "training" in pyschiatry consists of only a few lectures which describe far-advanced cases of mental illness, and give no information on the early symptoms of the various psychoses. Furthermore, the text-books of psychiatry tend to emphasize the classical pictures of the psychoses, rather than the early stages, and thus are of little help to the practitioner who *suspects* serious trouble and tries to find help from these books. When he looks in them, he finds descriptions of the end-results, rather than the prodomal signs and symptoms.

The first problem with which we are faced is the definition of "psychosis". Webster[1] defines it as "mental disease—any serious mental derangement". This is not satisfactory, for some of the psychoneuroses, such as the compulsive-obsessive type, may actually be more serious (in the sense of the degree of disability produced) than some of the psychotic reactions, such as a mild manic-depressive depression. The compulsive-obsessive may get worse in spite of treatment, while the manic-depressive may often be expected to recover without any treatment. Hinsie[2] defines "psychosis" as "mental disorder of a more or less special kind, which may or may not be associated with organic disease—a psychosis is *usually* a severer type of mental disorder in the sense that all the forms of adaptation (e.g., social, intellectual, professional, religious, etc.) are disrupted. In other words, the disorganization of the personality is extensive". Actually, the frequency of the psychoneurotic, or "milder" type of reaction, is much greater and harder to diagnose early than the psychotic reaction. It may be said, however, that often a psychosis in its earlier stages presents the picture of a psychoneurosis. In this paper, consideration will be limited to early diagnosis of psychotic states, and treatment will not be discussed. The subject will be approached by describing the early signs and symptoms of the commoner psychotic reaction types, stressing particularly those symptoms which are apt to be the first to appear in each of these types.

For practical purposes, the psychoses may be divided roughly into two major groups, that is, the "organic" and the "functional". In the "organic", definite pathology of the brain exists, while in the "functional", pathological findings are not demonstrable to sufficient extent that they explain the reaction.

"ORGANIC" PSYCHOSES

Any serious organic disease may have an associated psychotic reaction, and as far as the psychiatrist is concerned the chief diagnostic error noted in this group is that the referring physician may have been so impressed by the mental symptoms that he overlooked the physical signs which pointed to the correct diagnosis. This is particularly true in the case of brain tumors involving the frontal lobe, where the onset is marked by a change of personality in the patient prior to the onset of the classical findings associated with increased intracranial pressure. Such tumors often are very difficult to diagnose, but even general paresis may go unsuspected in its early stages and be relatively far-advanced before its existence is suspected. Equally common failures of diagnosis are found in some of the intoxications, especially bromide intoxication in the patient who has no rash, and has been taking

*Read before the Lynchburg Academy of Medicine on March 14, 1949.

some proprietary medication without his physician's knowledge. There is little purpose in listing all of the organic reaction types, but the diseases most commonly acting as precipitating factors (or causes) are (1) general systemic diseases which produce a toxic state, such as the febrile illnesses; (2) infections showing a predilection for the central nervous system, such as syphilis and epidemic encephalitis; (3) neoplasms of the brain, particularly those in the frontal lobes; (4) metabolic disorders, such as thyrotoxicosis and diabetes; (5) the intoxications due to alcohol, bromides or other drugs; (6) trauma to the brain, and (7) processes which are of unknown origin, such as senility and cerebral arteriosclerosis. Properly speaking, these diseases in themselves are not within the province of the psychiatrist, except perhaps for central nervous system syphilis. In many instances, however, the first warning that one of them exists is in the form of some personality change, and the relatives may bring the patient to the physician with the complaint that his behavior has become unusual.

It is not my intention to discuss the physical findings of any of these diseases, but it is urged that a very careful and complete physical and neurological examination be made of any patient with a complaint of mental symptoms before any conclusion is reached. All too often the mental symptoms overshadow the physical signs, and an error in diagnosis occurs.

As for the psychiatric examination, the early signs of any "organic" psychosis are essentially the same and for the most part can easily be elicited from the history given by relatives and from the examination of the patient. One will find changes of some degree in the fields of intellect, mood, and judgment, and the findings are characteristic.

Insofar as *intellect* is concerned, the patient shows a diminution of the capacity for attention and concentration, and this may even be his presenting complaint. There is also a disturbance of memory, particularly the ability to remember recent events. In addition, he is likely to show some degree of disorientation in the spheres of time, place and person. Disturbances of *mood* are almost invariably present in the organic psychoses and are manifested in a characteristic way. The patient shows a lability, or instability, of mood, becomes quickly tearful over trivialities, and as quickly unduly happy over other trivialities. Disturbances of *judgment* vary in direct proportion to the amount of brain damage, and are more apt to be noted early in the patient who has shown an ususually marked ability to cope successfully with the management of his affairs. For example, the errors of judgment of the president of a bank are more likely to be noticed early than are the errors of judgment of an illiterate oyster shucker.

Finally, a careful physical examination should show something which, in association with the mental findings previously outlined, suggests an organic psychosis in its early stage. One should not have to wait for the onset of delusions and hallucinations. As an example. the following case is illustrative:

Case I: The patient was a 50 year old, married, white male with a history of a personality change manifested by ill temper and general malaise beginning about a year previous to hospitalization. Two months later weakness of the left arm developed, and the patient had frequent temper tantrums, difficulty remembering recent events, insomnia, and inability to understand things which were told him. Five months after onset he developed a generalized weakness of the left side, and upon the advice of his physician all of his upper teeth were extracted, but without relief.

At about this time he began accusing his wife of infidelity. His condition slowly grew worse, and nine months after onset he fell from a ladder while painting. He saw another physician who gave him "arm and hip shots" for a month, but there was no relief of symptoms, and his mental state continued to grow worse. His wife then made arrangements for him to have psychiatric studies and he was hospitalized.

On admission he was euphoric, had a flight of ideas, rambled in his speech, and in spite of being in very poor general physical condition, insisted that he had never felt better in his life. His memory was very poor and he was unable to do even the simplest arithmetic. Neurological examination showed obvious weakness of the left arm and leg, slurred speech, fixed pupils, hyperactive deep reflexes on the left, positive Romberg, and ataxia. As was to be expected, a spinal fluid Wassermann was positive, and the mastic curve was positive. He was treated with malaria and penicillin, slowly im-

proved, and at the time of discharge he had become neat in appearance, not overly euphoric, his memory was improved, and he was well oriented.

"FUNCTIONAL" PSYCHOSES

In the case of a so-called "functional" psychosis, the error of diagnosis usually lies in the failure to recognize the potential seriousness of the illness until it is far advanced. These patients are frequently found to have had personalities which deviated from the normal as far back as childhood or early adolescence, and the change from what was merely a person who was "unusual" into a person with a serious mental illness may be so gradual that even members of the family cannot date the onset of the illness. This is particularly true of patients with schizophrenia (dementia praecox). The three reaction types which are most frequently seen are schizophrenia, the manic-depressive group, and the involutional psychoses. Unlike the "organic" group previously mentioned, there is no common set of early symptoms which provides for recognition of all, so it will be necessary to discuss each of them separately.

Schizophrenia is a mental illness which usually begins in adolescence or early adult life, and which ultimately manifests itself in hallucinations, delusions and personality deterioration. After it is fully developed, anyone can see that the patient is psychotic. However, its onset is apt to be insidious, and recognition is consequently delayed. The patient first appears in a physician's office either because he has a somatic complaint, or because his relatives have noticed peculiar deviations from his ordinary behavior. Where oddities of behavior are reported by the relatives, the physician at least knows he is dealing with a psychiatric patient, his examination will be directed along psychiatric lines, and the diagnosis should not be too difficult. However, it is the patient who seeks the physician himself who may present a diagnostic problem, especially if he comes in complaining of some physical symptom. This, of course, is true of any of the psychoses.

One of the first signs to appear in schizophrenia is usually a withdrawal from the society of others, and is manifested by shyness, difficulty in self-expression, and preoccupation with day dreams. The patient's first complaint is often that he has difficulty in concentrating. Recognizing the fact that something is wrong, there may appear some degree of depression, and a preoccupation with bodily sensations. At this point the patient may see a physician. As a rule, if the patient is allowed to give his history, it will be found that he has numerous complaints, that he is vague in describing them, and that, although he has sought help, at the same time he seems reluctant to give a full history. If it is suspected that his symptoms are psychiatric, he should be asked what *his* explanation of them is. This simple question will frequently solve the problem, for it may bring out some delusional trend; for example, that his body is being subjected to "radar" directed upon him by an enemy. Or, the question may be answered by a statement that sexual excesses have caused the trouble. The latter is particularly likely from an adolescent male concerned about masturbation. If, however, the initial history does not bring out more than somatic complaints, a careful physical examination should be done. We assume that this will be negative, except for the usual low B.M.R. In such a case, of course, one will require further interviews, and perhaps conversation with relatives, to reach a diagnosis.

Occasionally, a schizophrenic will present himself to a surgeon requesting that an operation be performed. He may have a desire for some type of plastic surgery, and it will be noted that his complaint is out of all proportion to his defect. Or, he may be convinced that the removal of some organ will cure him. Needless to say, the physician should beware of operating upon any patient who does not have the clinical findings to justify such operation. These patients *are* operated upon at times; they usually feel worse afterwards, and they may sue or attempt to injure the surgeon.

Case II: This patient was a 19 year old, white student. Prior to his illness he always did good work in school, but took little part in social activities, and had a very limited number of friends. His chief interest was in reading. He entered the Army upon graduation from high school at the age of 17, and although homesick during his brief period overseas, apparently did his work satisfactorily. He entered a college away from his home at the age of 19, and his present illness began at that time with difficulty in concentration, sensations of weakness and faintness while in class, a feeling of de-

pression, lack of ambition, and a marked sense of guilt over the compulsive masturbation in which he had engaged since the age of 15. He felt that this practice would bring about some "disease". He began to avoid the company of others and to drink beer excessively. Three months later he began to have vague abdominal pains. These pains varied in their location, bore no relation to meals, and after several weeks he saw a surgeon. Although he had had no vomiting, no localization of pain and no fever, an appendectomy was performed. Immediately following the operation he became mentally confused and thought that people were talking about him. He left the hospital a week after the operation, and went home to convalesce. There was a temporary improvement at home. He returned to school but hallucinations, delusions and inability to concentrate forced him to return home, and he was admitted soon afterwards to a psychiatric service. Electric shock therapy was instituted, and there was some improvement, but not complete recovery. The diagnosis in this case is dementia praecox of the paranoid type.

To summarize, one should rule out dementia praecox when the patient is an adolescent, or in early adult life, and has the following findings: (1) A history of seclusiveness and withdrawal from social activities; (2) Preoccupation with day dreams; (3) A halting, "stiff" manner of presenting his history; (4) Excessive preoccupation with vague somatic complaints which have no organic basis, or an undue concern over minor cosmetic imperfections, or a persistent demand for an unnecessary operation. There are, of course, many other findings, and the danger signals mentioned above are presented solely because the existence of any of them should lead the practitioner to make a more thorough psychiatric investigation before reaching a final conclusion.

Manic-depressive psychoses usually begin a little later in life than dementia praecox and, as the name implies, are manifested by either excitement or depression. In the case of this reaction, the patient in a manic state is brought to the physician by his relatives because he is too exuberant, unjustifiably irritable, and shows poor judgment in the management of his affairs. He himself feels so well that he does not see the need for treatment, and there should be little difficulty in diagnosis. The only difficulty may lie in the fact that his behavior may be attributed to alcohol or drugs, but since we are not concerned at this time with the finer points of diagnosis, it is ordinarily quite easy to recognize that the patient is mentally ill.

It is the depressive stage, in its early phase, that may offer a real problem in recognition. Here, the *patient* seeks the physician, often without the relatives considering it necessary. Usually, the patients have insight into the fact that they are depressed, but at times such patients think that the depression is due to some organic illness, and the presenting complaints are organic. It is extremely important for the physician to recognize the existence of these depressions, for such patients are frequently suicidal, and in consequence require protection from themselves.

The diagnosis in the average case is not difficult. The patient is usually an individual of a moody type, given to quick changes in mood from joy to sadness for relatively minor reasons. These changes are not rapid, as they are in the patients with organic psychoses, but rather the history will be that the patient is "always either up or down—excessively active and happy for days at a time, and then blue and slowed down for awhile". This is known as a "cyclothymic" personality, and it is in such personalities that the manic-depressive reactions occur. The symptoms are (1) mental depression; (2) a decreased ability to think; (3) self-depreciation; (4) an aversion to the society of others; (5) a decrease in the individual's ability to engage in physical activity; (6) a disturbance in the patient's sleep rhythm is often present, the patient frequently being able to go to sleep easily, but waking in the early hours of the morning, and (7) a diurnal variation of mood is often present in the early stages, the patient feeling worse in the morning, and improving toward the end of the day.

Unfortunately, there are atypical manic-depressive reactions, in which there is a mixture of depression, agitation and sometimes mild schizoid features. The early stages of such an illness as this are often similar to those of a psychoneurosis, and errors of diagnosis are likely. The following case illustrates this type of reaction:

Case III: The patient was a 30 year old, married, white woman, who had been a hard worker and apparently well adjusted except that she was

subject to some mood swings of a very mild nature. She married at the age of 26 a man who was several years her senior. Her husband had to contribute to the support of his family, and, in consequence, she continued her work as a stenographer. At the age of 30 she began to have difficulty in sleeping, and tended to wake early in the morning. Such sleep as she received was disturbed with dreams of falling and being chased by animals. She worried about small things. She began to have aches and pains about various parts of her body, and finally visited a surgeon a month later with a complaint of rectal pain and dyspareunia. The physical examination at that time showed her to have a small external hemorrhoid and a thick cartilaginous hymen of such a nature as to prevent satisfactory sexual relationships. Under spinal anesthesia the vagina was dilated, a plastic operation was performed upon the hymen, a small anal fissure was cauterized, and the external hemorrhoid was incised. Healing progressed normally, but the patient became increasingly tense and anxious and complained that the pains throughout her body were worse, and that she was having more rectal pain than she had previously had. She stopped work and repeatedly visited the surgeon's office asking for relief. She was referred to a psychiatrist, and at that time appeared depressed and anxious, expressed the fear that she might have tuberculosis, and stated that she did not allow her husband to have intercourse with her because she thought she might become pregnant (prior to her illness she had wished for children). Psychiatric treatment was advised, but the patient refused this and decided to take a trip. She did so, but became worse while away and returned home, at that time having some rather bizarre complaints. She saw two internists, both of whom made rather elaborate studies of her without finding any organic disease. Finally, she threatened to kill herself by taking iodine, and a week later actually attempted suicide by jumping from a high bridge into a river. Fortunately she was not injured. She was then admitted to a psychiatric hospital, and without any specific therapy recovered in a period of about four months. The final diagnosis in this case was that of atypical manic-depressive reaction.

In summary, an individual in early or middle adult life, who has been subject to easy swings of mood, and who complains of depression, is slowed down in thinking and acting, wakes early, feels worst in the early part of the day, and may or may not have hypochondriacal complaints, should be observed sufficiently to be sure whether a manic-depressive depression exists.

The *involutional psychoses* constitute the final group which shall be considered in this paper, and it is this group in which there is most likely to be a delay in diagnosis. The onset of symptoms is in middle age, a period when the individual is not only entitled to a few somatic complaints, but may very likely have some organic disease of more or less importance. Such patients usually present themselves to the physician with physical complaints, and very frequently the physician is misled by finding some organic disorder, which he pronounces the cause of the trouble, later to find that relief of this organic disturbance has done no more than change the location of the patient's complaints.

The involutional psychoses may be divided into two groups, those whose symptoms are primarily depressive in nature, and those who have some depression, but are also paranoid. "The period of involution brings with it a small increase of schizophrenic conditions, (and) a more considerable increase of depressions—but the period of involution is to be sharply differentiated in this respect, as well as, in general, from senile degeneration".[2]

As a rule, the patients who develop an involutional reaction have been rather rigid, tense, and overly-conscientious individuals. Many of these patients have had some degree of preoccupation with matters of health for many years, and often have been considered as "neurotic" in their attitudes toward their somatic sensations. On the other hand, they have been successful, and ordinarily such patients have managed to make a rather good living, and to be leaders in the community in some respects. Their social lives may have been restricted, but their reliability, trustworthiness, and overly scrupulous attitudes tend to put them into positions of trust. Naturally, the amount of innate intelligence present has much to do with the material success of such a person, but the basic character traits are essentially the same, regardless of intelligence or success.

The early symptoms of an involutional psychosis are often difficult to differentiate from those of a

neurosis, and, furthermore, the complaints sometimes never advance beyond those of a neurotic. The picture is often complicated still more by the "menopausal syndrome" in women, where the onset is at middle-age, the menopause is concurrent, and there is no marked progression of psychiatric symptoms. Such patients may even give temporary response to hormone therapy—probably as much because of the fact that they are receiving medicine as because of any specific effect of the medication.

In consequence of these factors, it is very difficult to give any exact prodromal signs or symptoms, but the following findings should lead the physician to make a careful investigation before reaching a conclusion as to diagnosis:

(1) The patient is past 40; (2) The personality has been that of a rigid, overly-conscientious, and possibly suspicious person; (3) Social activities have been limited; (4) There has developed a considerable degree of hypochondriasis, usually rather bizarre in nature, and so fixed that repeated negative examinations bring no sense of relief in spite of the reassurance given; (5) The patient tends especially to fear of cancer, or of venereal disease; (6) There is a sense of guilt, with statements such as "I must have committed an unpardonable sin to suffer so much"; (7) Insomnia is present, and (8) The patient is depressed, feels that his situation is hopeless, and, if properly questioned, is very apt to say that it would be better if he were dead. The danger of suicide is very great in these patients, and should ever be kept in mind.

Some of the involutional psychoses are marked more by delusions of persecution than depression, but in all of them there is some degree of depression, and the early findings are usually about the same. Where the patient who is primarily depressed may say that, because of his sinful behavior he has developed cancer, the paranoid patient may say that his abdominal pains are brought about by poisons that his enemy has administered. But, in either case, both patients are depressed and the hypochondriacal complaints are apt to be bizarre.

Case IV: This patient was a white woman of 51 who was a widow and who was admitted to a hospital on the medical service for diagnostic studies to see whether she had gallbladder disease or carcinoma of the gastro-intestinal tract. The history showed that she had always been a tense individual who worried a great deal about her health, and throughout her life had been considered neurotic. Three years before admission she had become depressed, cried easily, and complained continuously of pains in the abdomen. She had been unable to do any work about the house for a year prior to her admission. She had been receiving increasing quantities of sedatives over the last two years of her illness, and had seen a number of physicians, several of whom had recommended study in a psychiatric hospital, but she had refused to accept this advice. On admission she was agitated, cried easily, and was convinced that she had cancer. On the night of admission she was noted to be very confused mentally, did not know where she was or how she had arrived there, was noisy and apparently delusional. She was found to have a high blood bromide, and was transferred to the psychiatric service. On the psychiatric service the bromide intoxication rapidly disappeared, but the patient continued to be depressed and agitated. A week after admission she committed suicide with a razor blade which she had apparently successfully concealed in the lining of some of her clothing.

This patient had developed an involutional psychosis of a depressed type, and as a result of the excessive use of bromides had also acquired bromide intoxication which had masked the underlying psychotic reaction.

CONCLUSION

In this paper, an effort has been made to review some of the commoner psychotic reactions, with emphasis on their early signs and symptoms. Space does not permit a discussion of all of the psychotic reactions. It is also realized that the dividing line between psychosis and neurosis is often hard to determine, and that errors of diagnosis are sometimes apt to occur in spite of the care with which the patient is studied. The case used to illustrate the manic-depressive depression especially illustrates this, for here we have a patient with an atypical reaction whose early symptoms were more suggestive of the psychoneurotic, and where the diagnosis was not finally made until hospitalization after an unsuccessful suicidal attempt allowed observation.

As a general principle, the best means of detecting any mental illness is to allow the patient to give his history, and this applies particularly to

the psychotic. Furthermore, a careful physical examination must always be done, for the first impression of a mental illness will very frequently depend upon the discrepancy between the complaint and the physical findings. The physician who is in too much of a hurry is the one most likely to err in diagnosis, and the problem of the recognition of the existence of a psychosis would not be so great if the practitioner kept always in mind that psychoses do occur.

There is a tendency on the part of all of us to belittle the small signs of personality disturbance, for all of us know people with minor abnormalities who seem to get along well. Yet, it is just such small signs which often give us a clue to the existence of a psychosis. Not every introvert is, by any means, a schizophrenic, but when a psychosis develops in an introvert, it will probably be schizophrenic in nature. Thus, it is important to know the basic personality type of the patient.

The earliest sign of a psychosis, regardless of its nature, is most likely to be a change in personality. This change ordinarily represents an exaggeration of the patient's usual personality and thus the statements of relatives should never be ignored. In fact, where psychiatric illness is suspected, those close to the patient should be sought out and questioned as to whether the patient has become "different" in any way.

Finally, one should look with care into complaints of insomnia, depression, difficulty in concentration, or fixed hypochondriacal ideas which persist in spite of all negative studies. As has been said, these are often the prodromal symptoms of psychotic episodes.

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Antibiotic Drug For Skin Disease.

Successful use of an antibiotic drug, bacitracin, for impetigo and other skin diseases is reported in the September 17th *Journal of the American Medical Association.*

Bacitracin is thought to be especially valuable because it apparently causes few allergic reactions, say Drs. Jack L. Derzavis of Georgetown University School of Medicine, Washington, D. C., and J. Sidney Rice and Louis S. Leland of the U. S. Army Medical Corps, Washington, D. C. In contrast, use of sulfa drugs and penicillin for skin diseases has the drawback that some patients become hypersensitive to these substances which they may need later for severe infections, such as pneumonia. To determine human sensitivity to bacitracin, the doctors made patch tests of 150 adults by applying a small amount of the drug to the skin for 48 hours. All of the tests were negative for reaction to bacitracin. A fortnight later, 50 of these same persons were retested by the patch method on the same site for another 48 hours. All test sites were again normal after the patches were removed. "These results seemed indicative of low allergenicity and were subsequently corroborated by the occurrence of only one case of dermatitis of the contact type [inflammation of the skin from contact with a substance] among the 138 patients subsequently treated with bacitracin ointment."

Only skin diseases which respond well to treatment with penicillin and the sulfa drugs were treated with bacitracin. Of the 138 patients, 128 were cured by the newer antibiotic drug, five were improved, and only five failed to improve. Results against contagious impetigo are especially noteworthy. Many of these eruptions were cured in 48 hours after treatment with bacitracin was begun.

MALIGNANT LYMPHOMA: A CLINICO-PATHOLOGIC-RADIO-THERAPEUTIC CLASSIFICATION

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Recently two of us[1] have presented a classification of Hodgkin's disease based upon a study of this condition with a correlation of the histological and clinical data and radiotherapeutic response. Since Hodgkin's disease, as well as all the so-called lymphomas arise from the mesenchyme, a similar classification of all this group of tumors becomes of primary importance to make the subject comprehensible and applicable for clinicians. In the study of our own material, a number of cases had to be rejected because they proved to be of neural crest origin. These tumors mimicked lymphomas to a remarkable degree and made us wonder whether or not other students of the subject have had similar experiences. This finding alone made our series of cases appear much smaller than the series we started with. Moreover, in our work we have experienced giant follicular lymphomas becoming, in the course of time, lymphogranulomatous or sarcomatous. However, we do not believe that the reverse, i.e., lymphogranuloma or lymphosarcoma may revert to the more benign Brill-Symmers disease.

GALL AND MALLORY CLASSIFICATION	PROPOSED CLASSIFICATION
Stem Cell Lymphoma	Stem Cell Sarcoma
Clasmatocytic Lymphoma	Clasmatocytoma
Lymphoblastic Lymphoma	Reticulum Cell Sarcoma
Lymphocytic Lymphoma	Lymphosarcoma with Blood Invasion or *Leukosarcoma*
	Lymphosarcoma without Blood Invasion
Hodgkin's Lymphoma	Hodgkin's Disease: a. Compactly Cellular b. Fibrogranulomatous c. Loosely Cellular . . . Acute
Hodgkin's Sarcoma	Hodgkin's Sarcoma
Follicular Lymphoma	Giant Follicular Lymphoma

Fig. 1.—Classification of the malignant lymphomas.

It is well known that tumors of more mature cell types are in general easily diagnosed microscopically. Other tumors, usually more malignant, arising from more primitive forms of these cells, tend to revert to a more primitive and therefore more common form, morphologically, chemically and enzymologically. For this reason, the subclassification of these malignant tumors is often difficult and controversial. In the lymphoma group, reliable critera are few and any addition to this field of knowledge should be worth while. We believe that there are definite critera, based on solid anatomical and other evidence, which can be of use in their differential diagnosis.

Because of the border-line cases, the so-called atypical tumors, Sugarbaker and Craver,[2] in discussing the prognosis of lymphosarcoma, say, "the histologic picture, so helpful in the prognostication of many tumors, is of little aid here." We feel confident that as much prognostication may be derived from the histologic findings of malignant lymphomas as from the histologic findings in other types of new growths.

After a comparison was made of the various classifications offered in the literature, we concluded that a modified "Gall and Mallory"[3] classification was most suited to the problem.

The object of this proposed classification is to point out that the so-called Stem Cell Sarcoma resembles the undifferentiated mesenchyme (Fig. 2), and that any tumor included under the mesenchymal heading, when it becomes anaplastic, will develop into a cell type which approaches morphologically the primitive mesenchyme, regardless of whether its origin he lipoid, fibroblastic, myeloid or lymphoid, etc. This sliding scale, with the primitive mesenchyme at one end, and the fully differentiated tissues at the other end, was used in the prognostication of all the tumors of the mesenchymal group

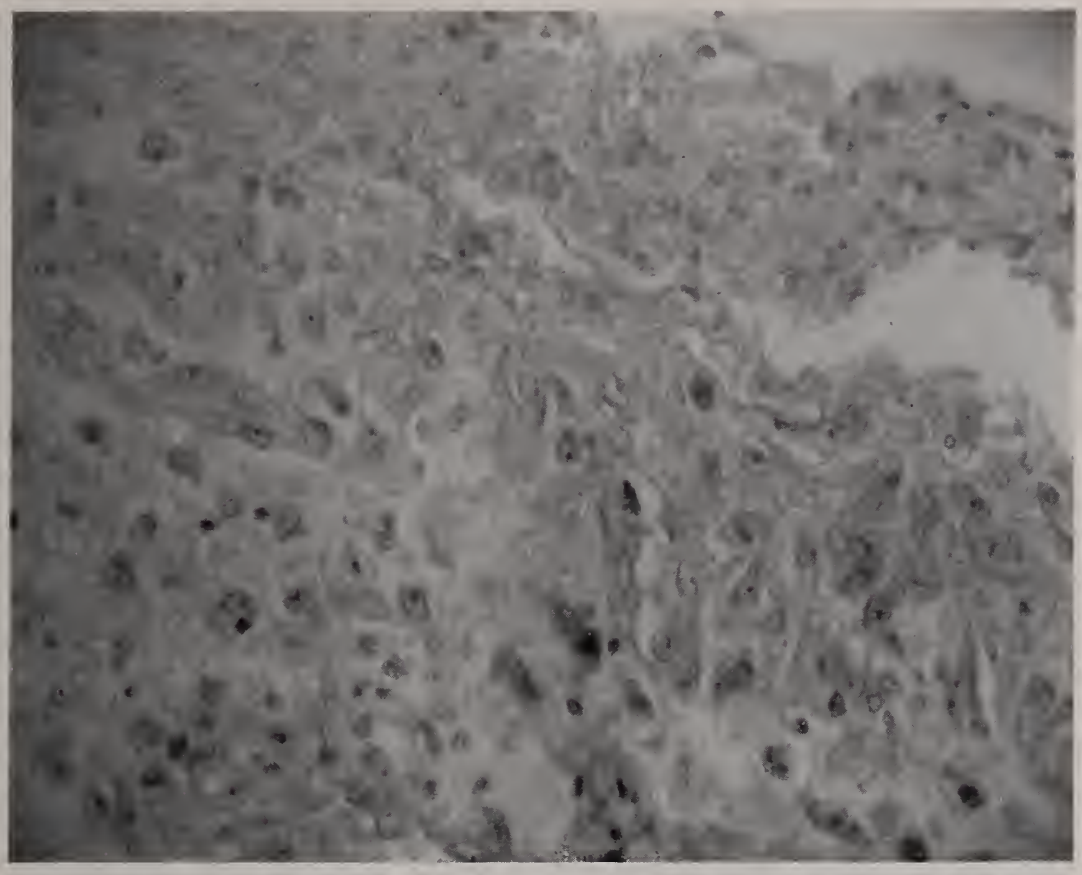

Fig. 2.—Proliferation of mesenchymal cells from a case of mediastinitis; the photomicrograph shows the indefinite cellular outlines, and the large, pale, rounded or oval, vesicular nuclei which contain large prominent nucleoli. These nucleoli resemble clusters of chromatin material. Note the similarity to stem cell sarcoma (Fig. 3). Hematoxylin and eosin stain x 800.

and it was found that the nearer the structure of the tumor approaches the indifferent mesenchyme the more rapid is its course and the more dismal is its prognosis. Both Maximow and Bloom[4] and Jordan[5] agree with Heidenhain that the primitive mesenchyme is a pale cytoplasmic syncytium which contains the various fibrils and fibres, and in the substance of which are scattered oval or rounded pale vesicular nuclei with delicate nuclear membranes. Each nucleus contains one or more large prominent nucleoli resembling clusters of chromatin material.

1. STEM CELL SARCOMA (3 CASES)

(a) Histologic Picture: (Fig. 3). The tumor shows sheets of large cells with very indistinct scanty cytoplasm and indistinguishable cell outlines. The nuclei are large, pale, vesicular and rounded or oval with delicate nuclear membranes. In the substance of each nucleus there are one or more prominent nucleoli, which look like clusters of chromatin. Mitotic figures are numerous, and multi-nucleated syncytial masses may be found. The tumor is highly invasive and rich in blood supply.

(b) Cytological Differential Features: The above features are distinctive.

(c) General Clinical Manifestations: There is rapid enlargement of a mass or lymph glands which may be either superficial, deep, or within body cavities, or in all these situations.

(d) Laboratory Characteristics: Two of the three cases showed w.b.c. and r.b.c. in the urine, but no albumin. Granular casts were present in one instance. One patient had a microcytic type of anemia.

(e) Clinical Differential Features: The clinical resemblance to all the more malignant members of the lymphoma group is marked. Intra-abdominally the tumor may simulate an acute surgical abdomen, one of our own cases having been explored because of a pre-operative diagnosis of appendiceal abcess.

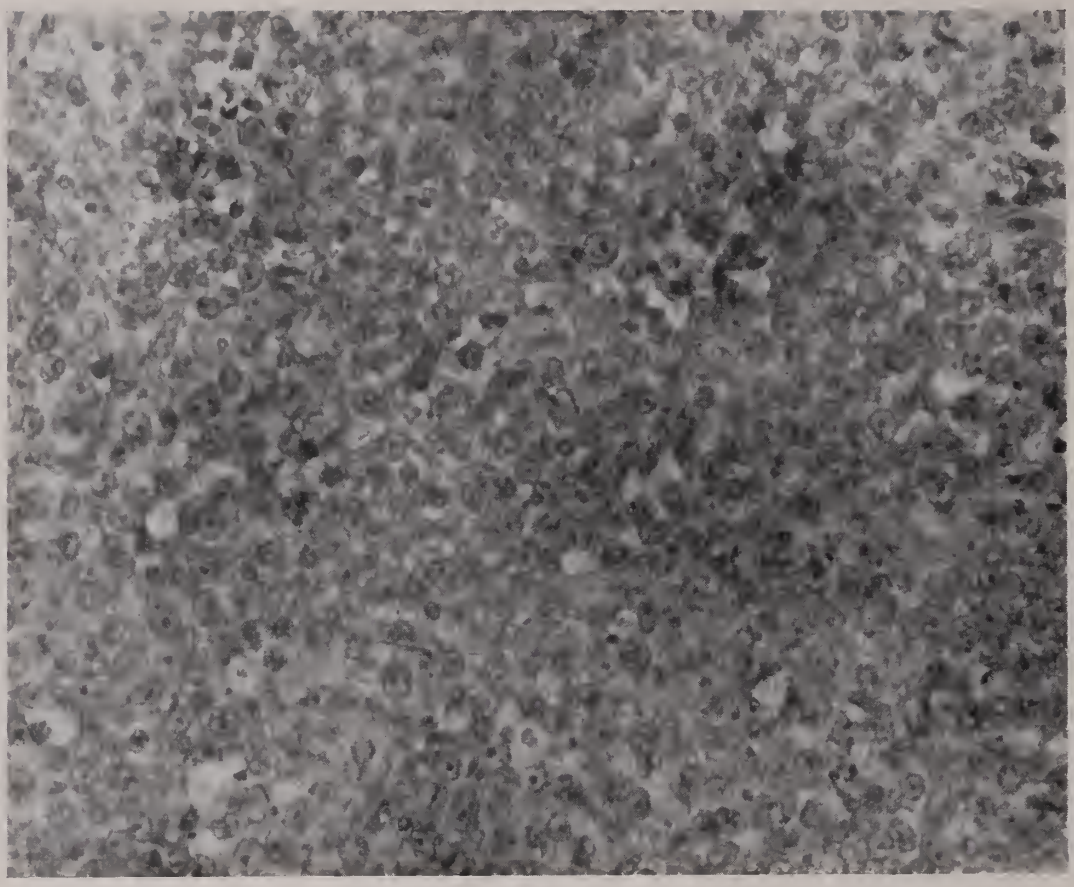

Fig. 3.—Stem cell sarcoma. The structure resembles that of primitive mesenchymal syncytium. The cytoplasm is scanty; cell outlines are very indefinite; the nuclei are vesicular, and two to four times the size of lymphocytes; each has a delicate nuclear membrane, scanty chromatin and one or more prominent nucleoli which look like clusters of chromatin material. Mitotic figures are numerous and multinucleated syncytia may be irregularly scattered throughout the section. Hematoxylin and eosin stain x 800.

(f) Response to Irradiation: The immediate response is good, with rapid reduction in the size of the tumor in 2 to 14 days. However, there is recurrence or appearance of new tumors in from 1 to 5 months. In Gall and Mallory's series 12% failed to exhibit any favorable response. All our cases were traced and all died within one year.

(g) Course and Life Expectancy: The course is rapid with a maximum life expectancy of approximately 12 months, which was true in all our cases.

2. CLASMATOCYTOMA (6 CASES)

(a) Histologic Picture: The tumor shows reticuloendothelial sheets similar to the stem cell with the same prominent nucleoli. There is much destruction of the architecture of the tissue in which it is found. Bizarre forms, multinucleated cells and mitotic figures are numerous, and phagocytosis may be seen in some tumor cells. The tumor is highly invasive and rich in blood supply.

(b) Cytological Differential Features: Numerous giant cells and bizarre forms as well as phagocytosis in the tumor cells are characteristic of this type. Gall and Mallory state that the cells in these tumors simulate more or less closely normal clasmatocytes or monocytes. They tend to be smaller than the stem cells but are distinctly larger than lymphocytes. The cytoplasm is abundant and generally eosinophilic, and its borders, though distinct, have a tendency to be irregular in outline. Nuclei are frequently eccentric in position, round, oval, reniform or horseshoe shaped.

(c) General Clinical Manifestations: The picture is very similar to that of stem cell sarcoma with rapidity of growth of the tumor apparently somewhat less marked. Location of the lymph node involvement may be deep or superficial or both.

The cervical glands in our series were most commonly involved. The glands were recorded as painful in one case and tender in three others. Five patients gave a history of weight loss. Fever was absent in two cases, of low grade in 2, and one exhibited a daily spiking on the temperature chart. All the patients had sought medical advice within four months of the onset of their symptoms. When first seen the nodes ranged from 3 x 2 cms. to 6 x 4 cms. in size and tended to be firm in consistency. The ages ranged from 9 to 66 years with an average of 37 years.

(d) Laboratory Characteristics: Low hemoglobin with normal range of r.b.c. was noted in 3 cases. The w.b.c. were generally normal but with 6% eosinophiles in one case. Serum protein, in the two cases recorded, showed a tendency towards reversal of the albumin-globulin ratio. The erythrocyte sedimentation rate was high (23 mm. per hour) in the one case where it was recorded. Urinary sediment showed the presence of w.b.c. in all six cases, but none with r.b.c., and only one with albumin. Casts were present in two instances.

Radiologically a mass was demonstrable in 3 cases, 2 in the mediastinum and one in the retroperitoneal region. There were no distinguishing features to suggest the diagnosis.

(e) Clinical Differential Features: Differentiation from the other rapidly progressing lymphomas is difficult if not impossible on clinical grounds alone. When situated within the body cavities the tumor may be confused with the various carcinomas, sarcomas, and sympathoblastomas that may occur there. No typical picture was demonstrable.

(f) Response to Treatment: Generally the response to irradiation simulates that of the stem cell sarcoma with early regression of the lesion and recurrence in 1 to 5 months. Only one case failed to show definite response to roentgen therapy.

(g) Course and Life Expectancy: The course is

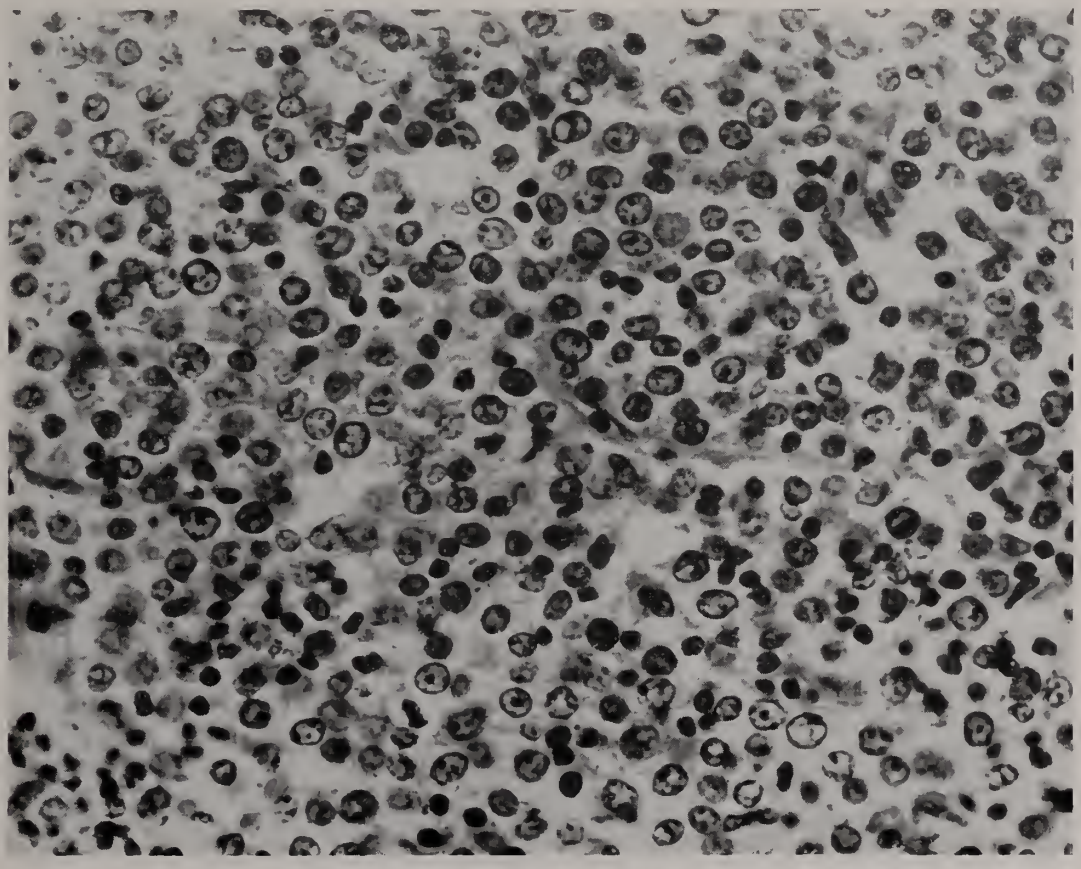

Fig. 4.—Reticulum cell sarcoma. The tumor cells have many of the morphologic qualities of the stem cell sarcoma (Fig. 3), i.e., indefinite cell outline, scanty cytoplasm, rounded or oval vesicular nuclei with delicate nuclear membrane and one or more large prominent nucleoli. However, the nuclei are smaller in size than those of the stem cell sarcoma and the mitotic figures are not as numerous. Hematoxylin and eosin stain x 800.

rapid with average life expectancy of 7½ months after onset of symptoms and with range of 5½ to 12 months in this series.

3. RETICULUM CELL SARCOMA (8 CASES)

(a) Histologic Picture: (Fig. 4). This tumor has many of the qualities of the stem cell sarcoma i.e., the cytoplasm is pale and scanty and cell membranes indefinite. The nuclei are pale and vesicular with definite nuclear membrane and with one or more prominent nucleoli; occasional multinucleated cells may be found. The tumor is invasive and rich in blood supply.

(b) Cytologic Differential Features: The nuclei are smaller and deeper staining than those of the stem cell or clasmatocytoma, and the mitotic figures of the reticulum cell sarcoma, although numerous, are much fewer than those of the other two types. (c) General Clinical Manifestations: The ages ranged from 37 to 74 years. There was predominance of males (3 to 1) with no significant racial preference (3 white and 5 colored). Again, various combinations of deep and superficial tumors were met, with 3 cases showing predominant cervical adenopathy, 3 being intra-abdominal and 2 mediastinal, the latter not detected clinically. The glands were firm in consistency with pain and tenderness in three cases. There was one palpable liver but no palpable spleen on record. Only two charts recorded evidence of weight loss. Five patients had no fever, two of low grade, and one spiking in character.

Medical attention was sought between 5 weeks and 24 months after the onset of symptoms with an average of 6.75 months. When first seen the glands were described as "large", and the palpable adenopathy was about equally divided between multiple involved areas and limitation to a single region.

(d) Laboratory Characteristics: The red blood cell count and hemoglobin tended to be within normal limits. Only two cases showed a microcytic

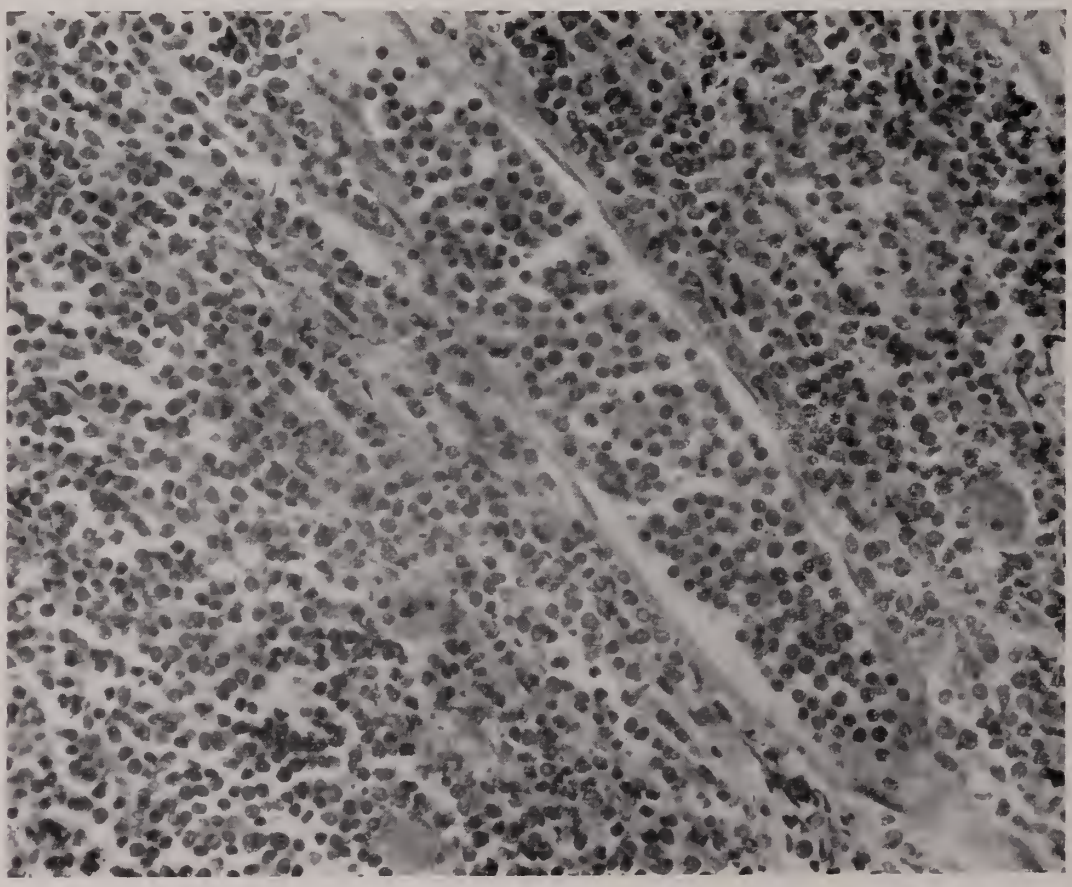

Fig. 5.—Lymphosarcoma with blood invasion (leukosarcoma). Sheets of uniform tumor cells; each 1½ to 2 times the size of small lymphocytes. The tumor is rich in mitoses. A blood vessel is filled with tumor cells. The cells have the same morphology as small lymphocytes. Hematoxylin and eosin x 400.

type of anemia. The white blood count showed no characteristic changes. Tumor cells were recognized in the bone marrow once and in the peripheral smear twice. One of the latter was recorded as making up 13% of the total white blood cells. In one case a white blood count of 14,200 with 80% lymphocytes was recorded, but we feel that this was probably a case of extensive tumor invasion of the blood.

In two cases the total protein and albumin was low, with high globulin and tendency to reversal of the albumin-globulin ratio in one.

Urinary findings showed the presence of albumin in 5 cases, white blood cells in 7, red blood cells in two, and casts in two.

The presence of a deep mass was radiologically demonstrated in 5 cases with no changes characteristic.

(e) Clinical Differential Features: Differentiation from the other lymphomas depends on biopsy rather than the clinical picture. The general aspect is one of somewhat less rapidly progressive malignancy than the type previously discussed.

(f) Response to Treatment: It would seem from our limited number of cases that those tumors which present a more malignant picture histologically respond to irradiation like the stem cell and clasmatocytoma; i.e., some immediate regression but with rapid recurrence and early death. A more favorable response and better control are to be expected from those of more orderly and less malignant histologic appearance. Those of deep seated origin (mediastinal and retroperitoneal) appeared to respond less readily than those of more superficial glands. In one tumor originating in the ileal mesentery, with invasion of the small bowel, incomplete excision and resection of the involved gut was combined with x-ray therapy to the abdomen; at 22 months this patient was well, with no evidence of recurrence despite the apparently malignant histologic picture, which suggests the advantage of surgery plus irradiation in selected cases.

(g) Course and Life Expectancy: Generally, the course is less rapid than stem cell sarcoma or clasmatocytoma, with an average duration of about 17 months after the onset of symptoms in our cases. However, some of the more malignant in the series run a course almost equal to that of the stem cell sarcoma in rapidity. In general, the life expectancy is from 18 to 20 months. Gall and Mallory found that 21% failed to exhibit any evidence of improvement with roentgen therapy.

4. Leukosarcoma and 5. Lymphosarcoma (10 Cases)

(a) Histologic Picture (Fig. 5). The tumor is composed of round cells which may be mistaken for lymphocytes. The size, however, is 1½ to 2 times that of a lymphocyte. Mitotic figures are irregularly found and the capsule of the node as well as the adjacent adipose tissues are invaded.

In those cases with blood invasion by the tumor cells (leukosarcoma), the same description applies except that mitoses are so numerous that the crowding of cells causes a spilling over into the blood vessels and lymphatics.

(b) Cytologic Differential Features: The lack of lymph node sinusoidal engorgement with cells and the presence of capsular infiltration as well as the comparative cell size, differentiate this tumor from leukemia or its aleukemic phase. The differentiation from reticulum cell sarcoma lies in the cell size, those of the lymphosarcoma being ½ the size of germinal center cells and reticulum cell sarcoma cells (Fig. 6).

(c) General Clinical Manifestations: The ages ranged from 3.5 to 74 years, with male predominance of 9 to 1 female, and with the incidence of 4 white to 6 negroes. In five cases the nodes were generalized, with those of the cervical region most marked. In one case adenopathy was limited to the cervical glands, while in three several areas were involved. In one, no peripheral nodes were palpable, the tumor being localized to the retroperitoneal region. A palpable liver was recorded four times, and palpable spleen five times. The glands were firm, being painful in two cases but tender in none, and were indefinitely described as "large". Four patients had lost weight. Four had no fever recorded, five ran a low grade febrile course, and only one showed a high spiking type of fever. Malaise and weakness were notable in four cases.

Medical attention was sought in from one week to 24 months, averaging 5.8 months.

(d) Laboratory Characteristics: The red blood cell count was generally normal with a slight anemia in two cases. The white count was normal in four cases with a fifth showing 8% eosinophiles. Twice there was a normal white blood count with a high

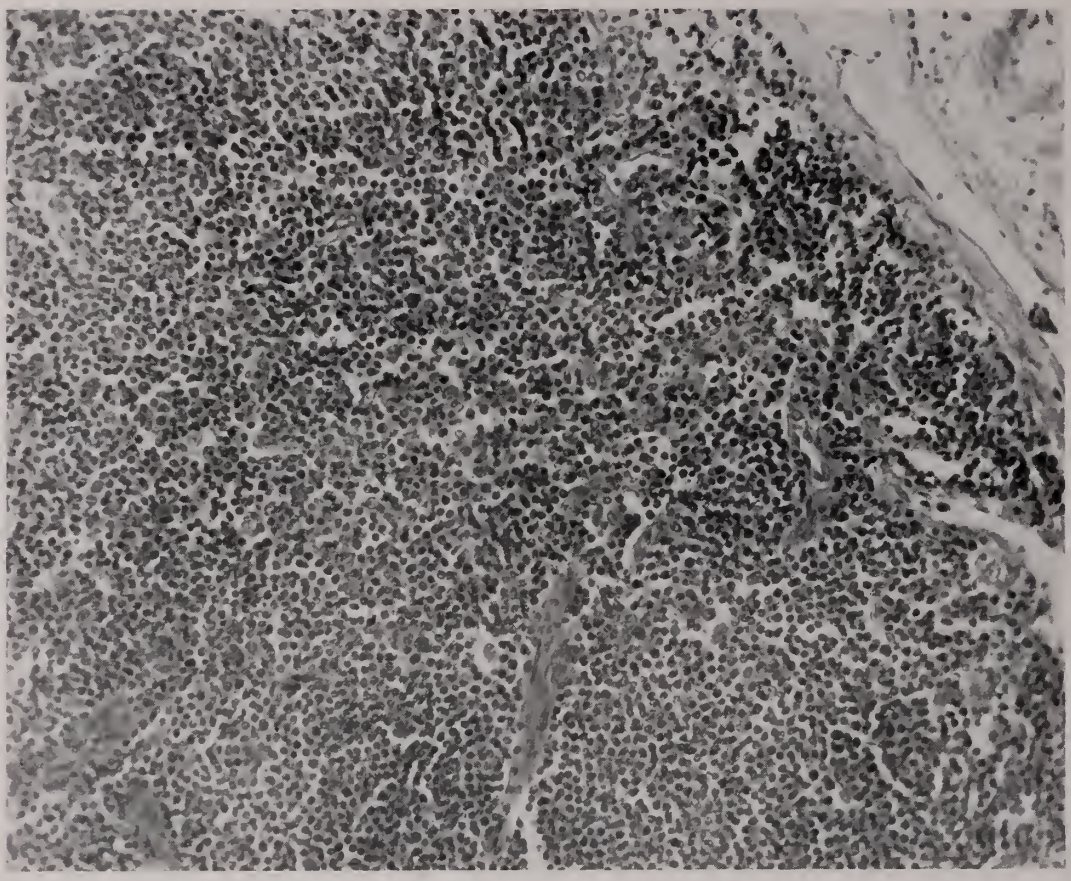

Fig. 6.—Lymphosarcoma showing the uniformity of the tumor cells and their size in relation to the lymphocytes near the capsule. Hematoxylin and eosin stain x 200.

lymphocyte count on record, but we believe that the majority of the "lymphocytes" were tumor cells which were not recognized. In one other case, the unusual cells seen in the blood were described as being of "abnormal immature appearance". The bone marrow appeared normal in one case, was diagnosed as "aleukemic lymphatic leukemia" in a second, and showed "hypoplasia of myeloid and red blood cell elements with increased megakaryocytes" in a third.

The urinary findings showed albumin in four cases, and the presence of white blood cells in 6 cases and red blood cells in four.

Radiologically, the mediastinum was widened in four cases, one of these showing pleural fluid, with large hilar nodes in a fifth case and prominent inner lung markings in another. No changes were considered to be characteristic of lymphosarcoma.

(e) Clinical Differential Features: The general picture closely resembles that of reticulum cell sarcoma with apparently less pain and tenderness of the involved nodes. The liver and spleen were more commonly palpable in lymphosarcoma than in the previously described tumors of our series. In cases of leukosarcoma, a careful cytologic analysis of the abnormal cells may lead one to suspect the diagnosis of lymphosarcoma rather than leukemia.

(f) Response to Treatment: In all six patients who received adequate x-ray therapy some regression of the nodes was noted with duration of control varying with the malignant features as described in the discussion. One patient treated with nitrogen mustard showed early regression of nodes and a low platelet count, but attempts to follow this patient have been unsuccessful.

(g) Course and Life Expectancy: Because of inadequate follow up in our series no final conclusions can be drawn in this group. However, we feel that the course of the disease varies with its cytologic picture; that is, abundance of mitoses and blood invasion are indicative of a rapid course of about 12 months, while paucity of mitosis and ab-

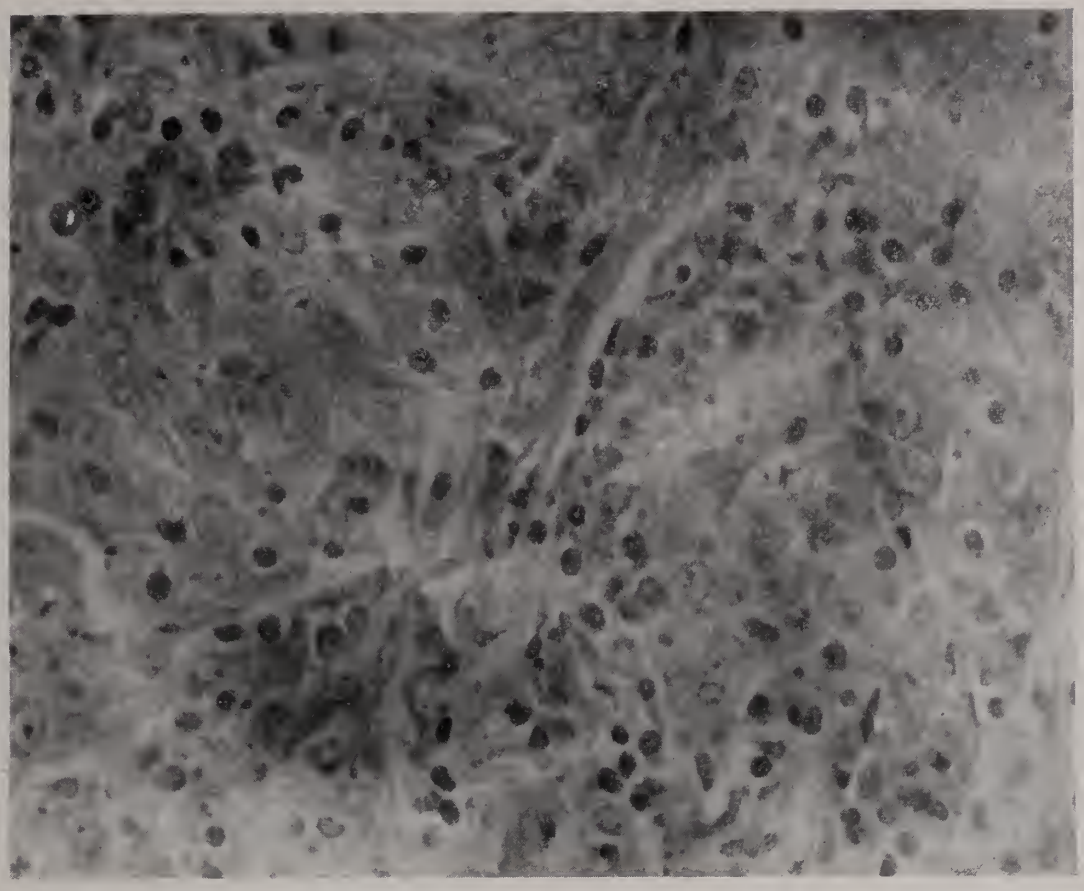

Fig. 7.—Hodgkin's sarcoma. The section shows sheets of primitive reticulo-endothelial cells which have scanty indefinite cytoplasm and pale vesicular nuclei. The nuclei are rounded or oval, have delicate nuclear membranes and each contains one or more prominent nucleoli. Mitotic figures are numerous. Some of the nuclei have a tendency to lobulation and multinucleated syncytial masses may be present. Eosinophiles, plasma cells and lymphocytes are few and irregularly scattered. Note the similarity of the reticulo-endothelial sheets to those of the stem cell sarcoma (Fig. 3). Hematoxylin and eosin stain x 800.

sence of blood invasion run parallel with a more prolonged course of 20 to 36 months.

6. HODGKIN'S DISEASE (24 CASES)

Sahyoun and Eisenberg[1] have recently published this material elsewhere. Briefly, exclusive of Hodgkin's sarcoma, they recognized three types:

1. Compactly cellular type (slowly progressing).
2. Fibrogranulomatous type (moderately progressing).
3. Loosely cellular type (rapidly progressing).

7. HODGKIN'S SARCOMA (1 CASE)

(a) Histologic Picture: (Fig. 7). There are sheets of reticulo-endothelial cells with the nuclei having many of the qualities of the stem cell sarcoma and with a feeble attempt at Reed-Sternberg cell formation. Scattered throughout there are areas of pleomorphism where eosinophiles, plasma cells and lymphoid cells are seen.

(b) Cytologic Differential Features: The cells are not as uniform as those of the stem cell although of the same mesenchymal type. There is no phagocytosis as in clasmatocytoma.

(c) General Clinical Manifestations: Our one patient, a 16 year old white male, was first seen 3 months after the onset of symptoms complaining of soreness of the right side of the neck. On examination, there were bilaterally enlarged cervical glands, tender, smooth, discrete and described as prune sized. Later a mass became palpable in the lumbar region.

(d) Laboratory Characteristics: The red and white blood cell counts were normal. The urine

showed a trace of albumin and an occasional white blood cell.

(e) Clinical Differential Features: The possibilities of scrofula and acute adenitis were considered, the presence of large red tonsils making the latter quite possible. The negative chest film ruled against tuberculosis.

(f) Response to Treatment: The nodes regressed markedly with x-ray therapy, but with recurrence after 6 weeks, and with later control less marked. There was invasion of the lumbar spine later which showed little response.

(g) Course and Life Expectancy: The patient lived 15 months after the onset of his symptoms, and 9 months after roentgen therapy was started. Gall and Mallory found that 20% of their series failed to exhibit any improvement.

8. GIANT FOLLICULAR LYMPHOMA (2 CASES)

Our two proven cases were confirmed during surgical explorations of the upper abdomen; one had a splenectomy and the other a cholecystectomy. In both instances, death occurred within 6 months of the operative interference. Neither case lends itself as a suitable illustration of this more slowly progressing malignant lymphoma. The reviews of Brill, Baehr and Rosenthal,[6] Symmers[7] and Gall, Morrison and Scott[8] should be consulted.

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American Board of Obstetrics and Gynecology, Inc.

The next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Friday, February 3, 1950. Arrangements will be made so far as is possible for candidates to take the Part I examination (written paper and submission of case records) at places convenient for them.

Application forms and Bulletins are sent upon request made to Paul Titus, M.D., Secretary-Treasurer, American Board of Obstetrics and Gynecology, 1015 Highland Building, Pittsburgh 6, Pennsylvania.

ACUTE NON-SPECIFIC PERICARDITIS—
Report of Five Cases*

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INTRODUCTION

Pericarditis may be classified as: (1) acute fibrinous, (2) pericarditis with effusion, which may be serous, purulent, or hemorrhagic, (3) chronic pericarditis, which includes encasement of the heart in a fibrous pericardium and is of great clinical significance and interest, or merely inconsequential adhesions which are clinically incidental.

We wish to discuss acute pericarditis which may be merely fibrinous or may be associated with effusion. It is known that this type of non-purulent pericarditis may be associated with rheumatic fever, myocardial infarction, disseminated lupus erythematosus, uremia, tuberculosis, *et al.* It is also thought that this condition occurs as a separate entity and that it often follows acute upper respiratory infections. This is the condition that we wish to discuss; that is, a disease which is not associated with obvious rheumatic fever, myocardial infarction, tuberculosis, uremia, or other of the common causes of pericarditis. It is not a new disease, having been described previously[1-2-3], but emphasis should be placed on it particularly in reference to its differentiation from myocardial infarction in fairly young adults and rheumatic fever and also because it is a possible causative factor in the development of chronic constrictive pericarditis in later life.

This disease, as stated, usually follows an acute upper respiratory infection but the relationship to this is not exactly known. It possibly is an allergic phenomenom[2] similar to that thought to exist in rheumatic fever or possibly due to extension of the respiratory infection from the hilar lymph nodes to the pericardial sac.

INCIDENCE

Pericarditis is probably much more common than is generally thought. In fact, the diagnosis is more often missed than made. Smith and Willius[3] found 373 cases of unsuspected pericarditis in 8,912 necropsies; that is, an incidence of 4.3%. Fifty-eight per cent of these were acute. They also found that 49.3% of 144 cases of adherent pericarditis were of unknown etiology. Possibly some of these were due to acute pericarditis that had occurred much earlier and had not been recognized.

CLINICAL FEATURES

A number of these patients are seen who date the onset of their illness to the time they first noticed pain. However, careful inquiry into the history will reveal usually that many of them have had an upper respiratory infection shortly before the onset of pain. The pain is usually described as "aching" or "squeezing," and is aggravated by coughing, twisting of the trunk, breathing, and occasionally by swallowing. Its location may be in the epigastrium, or in the precordial or substernal areas, or may even be widespread over the entire anterior chest. At times it will radiate to the shoulder and even down the arms, but not as far as the elbow or the wrist, as occurs with myocardial infarction or coronary insufficiency. It is usually present for only a few days. However, there are some individuals who will continue to have pain for several weeks. If fluid accumulates rapidly in the pericardium, there may be symptoms of tamponade with resulting dyspnea, orthopnea, and right upper quadrant discomfort from hepatic engorgement. Also, there may be compression of lungs and mediastinal structure, and great vessels by the enlarged pericardium with resulting irritative cough, hoarseness, and dysphagia as well as aggravation of existing dyspnea and orthopnea.

The cardinal sign of acute pericarditis is the friction rub which is usually heard at sometime during the illness if the patient is examined frequently. The rub may be rough and grating in character or it may be so soft that it can easily be confused with a cardiac murmur. It may be heard over the entire precordium but usually it is best heard

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along the left sternal border. If tamponade occurs, venous engorgement with cyanosis, distant heart sounds, enlarged liver, pulsus paradoxus, and low pulse pressure may follow. The venous pressure will be elevated. White[6] states that effusions of less than 300 cc. are usually missed clinically. Therefore, when a rub is heard, a careful search should be made to determine the presence or absence of an effusion. Even with a marked collection of fluid a rub may still be heard. The heart sounds are more apt to be muffled and distant with an effusion and there may be a striking increase in cardiac dullness, including the supra-cardiac area. Ewart's sign may be elicited with large effusions. Temperature elevation occurs and usually reaches its maximum on the first or second day of the illness. It rarely becomes higher than 102° F.

Leukocytosis may or may not be associated but it usually occurs, reaching occasional levels of 27,000 w.b.c. per cu. mm., but more often it is 10,000 to 15,000. This becomes normal toward the end of the first week. The sedimentation rate which is also increased usually remains so for 2-3 weeks and then returns to normal.

Electrocardiographic changes are characteristic and consist of elevation of the ST segments with dome shaped T-waves in the early stages and inversion of the T-waves later on. Depression of the ST segments does not occur, reciprocal relationship of the ST segments and T-waves in the standard leads I and III do not develop and Q-wave patterns do not occur in the standard or precordial leads, nor do the R-waves of the precordial leads disappear.

The cardiac shadow on the x-ray may be greatly increased in size in the beginning. This returns to normal as the patient improves. Fluoroscopically, the cardiac pulsations are decreased, when the shadow is increased, and these pulsations return to normal as the heart shadow decreases in size.

Differential Diagnosis

Myocardial infarction may be confused with acute pericarditis, and this has been one of the chief conditions with which we have been concerned in differential diagnosis. However, if a careful study is made and the patient's course is followed closely, it should not be difficult to distinguish the two conditions. Though pericarditis has a tendency to occur in a younger age group, it may occur at any age. The pain is usually not as severe, is aggravated by movements of the trunk, coughing, and breathing, and it may radiate to the arm but rarely as far as the elbows or wrists. The temperature, sedimentation rate, and white count are usually elevated on the first day, whereas with infarction they appear several days later.

The typical pericardial rub is heard, as a rule, at the onset, but in myocardial infarction it usually occurs a few days later, if at all. With effusion, there will be evidences of enlargement, and changes in heart sounds. Fluoroscopy will be of value as it will usually reveal an enlarged cardiac shadow and markedly decreased pulsation in pericarditis, while in myocardial infarction localized decrease in pulsation may occur.[4]

In pericarditis there are no permanent changes in the EKG such as a Q-wave or absent R-waves as occur with infarction. The ST segments may be elevated in all limb leads, but leads I and III will not be reciprocally affected, as occurs with myocardial infarction. In the early stages the T-waves will be peaked or rounded and in the later stages they may be inverted. Lastly, the EKG changes in pericarditis will be present for only a few weeks at the most; whereas, in infarction, they usually persist for months or years.

The other major disease which must be differentiated from acute non-specific pericarditis is acute rheumatic fever with pericarditis. This is also usually preceded by an acute upper respiratory infection and may involve the heart and pericardium without having associated joint manifestations. Usually there are changes in the AV conduction time, which indicate myocardial involvement also and valvulitis with resulting heart murmurs is almost always present. The other clinical entities involving the posterior mediastinum, such as a dissecting aneurysm, mediastinal emphysema, mediastinitis, and diaphragmatic hernia, should be kept in mind, although they can usually be quickly ruled out.

Case Reports

Case I—F. H., a 41 year old white male gave a history of sore throat and cough at intervals for one month prior to admission. Three days prior to admission he awoke during the night with generalized malaise, fever, and aching pains in the muscles of his upper and lower extremities, neck and back. Orthopnea, cough, and pain in the anterior

chest followed. This pain was accentuated by respiration and cough.

Physical examination revealed him to be undernourished. There were several patches on each tonsil and the throat was injected. The heart was enlarged to the left, the sounds were muffled, and a loud to and fro friction rub was heard best along the left sternal border in the fourth interspace. Pulsus paradoxus was present. The blood pressure was 105/90. Liver dullness was 4 cm. below the costal margin and there was associated tenderness. There was no peripheral edema.

Laboratory findings showed the white count to be 11,850 on admission, with a differential of 75 neutrophile segmentals, 6 stabs, 18 lymphocytes, and 1 eosinophile. The sedimentation rate was 20-25 by the Cutler method. Eight days later it was 7-13. The urine was essentially negative.

X-ray and fluoroscopic examinations: X-ray of the chest on admission revealed that the upper diameters of the heart were about 20% greater in the supine than in the sitting position. Flouroscopic examination showed the cardiac pulsations to be markedly diminished and the transverse diameter of the frontal plane of the heart as measured by the orthodiagram was 14.2 cm. or 31.5% above the predicted normal. Twenty-seven days later the orthodiagram had returned to normal. (Figure I).

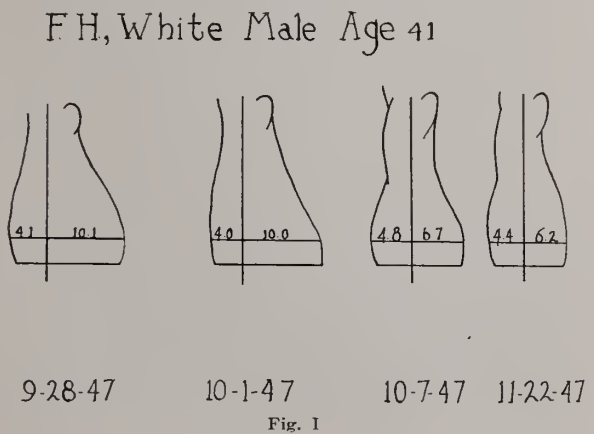

Fig. I

Electrocardiographic findings: On the day of admission, the EKG showed left axis deviation and the T-waves were inverted in 1, CR-2, 4, and 5, and the ST segments were slightly elevated in lead 1 and the CR leads. By October 9, 1947, the T waves were inverted in all leads, being very deep in the CR leads. On November 22, 1947, the EKG had returned to normal. (Figure II).

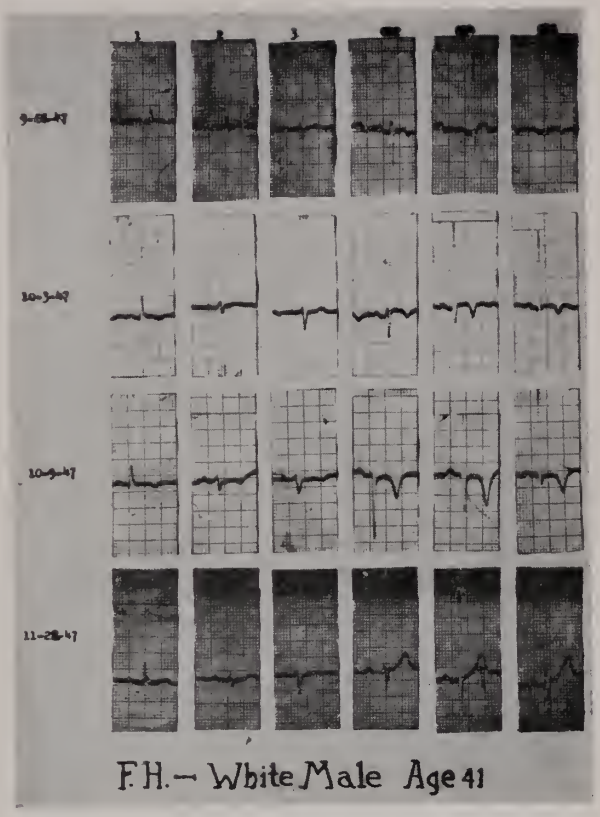

Fig. II

Course: Three days after entering the hospital, the venous pressure was 219 mm. of water and the patient complained of more chest pain and dyspnea. At this time, he was found on his hands and knees gasping for breath. A pericardial tap was done and 200 cc. of serosanguineous fluid were withdrawn. He was then able to lie flat and felt more comfortable. He was given opiates for pain and 50,000 units of penicillin intramuscularly every three hours for a total of 7,500,000 units. He progressively improved and was discharged two weeks following admission. He was seen November 22, 1947, and physical examination was normal. Electrocardiogram was normal and fluoroscopy was normal. Sedimentation rate was 3-5.

Case II—W. R., a 43 year old white male, was admitted to the hospital on January 20, 1948, because of severe chest pain beginning at 7 P. M. the previous night. The pain radiated to the left shoulder and arm, was accentuated by respiration and accompanied by dyspnea. Three weeks prior to admission he developed substernal soreness which involved both sides of the chest, lasted about six

hours and then abated completely. During the previous week before the second attack of pain, he had a cough productive of mucopurulent sputum and wheezing.

Physical examination revealed the presence of a grade I systolic murmur heard at the apex and a very definite to and fro rub along the left sternal border, best heard in the fourth interspace. The blood pressure was 150/90. The chest was clear There was no evidence of tamponade.

Laboratory findings: The leukocyte count was 10,800 on admission, with 79 neutrophils, 9 monocytes, and 12 lymphocytes. The hemoglobin was 86% (12.5 grams). The sedimentation rate was 6-12. One week later it was 9-14. The urine and blood serology were negative.

X-ray and fluoroscopic examinations: On January 20, 23, and February 14, 1948, the lung fields were clear and the heart was within normal limits. No changes occurred in the heart shadow on these three occasions.

Electrocardiographic changes: The ST segments were slightly elevated in lead II, CR-2, CR-4, CR-5 and the T-waves were peaked on admission. On January 23, the T-waves were flattened and on January 26 they were more rounded in appearance. By February 15, the EKG was within normal limits. (Figure III).

Course: The patient had severe chest pain for 3-4 days which required opiates for relief. After disappearance of pain, the patient rapidly recovered and was discharged after 12 days of hospitalization. He was also seen one month after discharge and was asymptomatic. Electrocardiogram was normal. Fluoroscopy of the heart was normal. The blood pressure was 170/110.

This case was included to demonstrate the difficulty in differentiating this from myocardial infarction. He may have had a myocardial infarction but the EKG changes and early white blood count elevation seemed to point to pericarditis rather than to myocardial infarction.

Case III—D. T., a 39 year old merchant, was admitted to the hospital on April 26, 1948. Three weeks prior to this time there was a sudden onset of severe sharp pain in the precordial area. The pain was aggravated by cough, respiration, and exertion. He was observed at another hospital for three days; the pain subsided, and he was discharged with a little residual discomfort. About

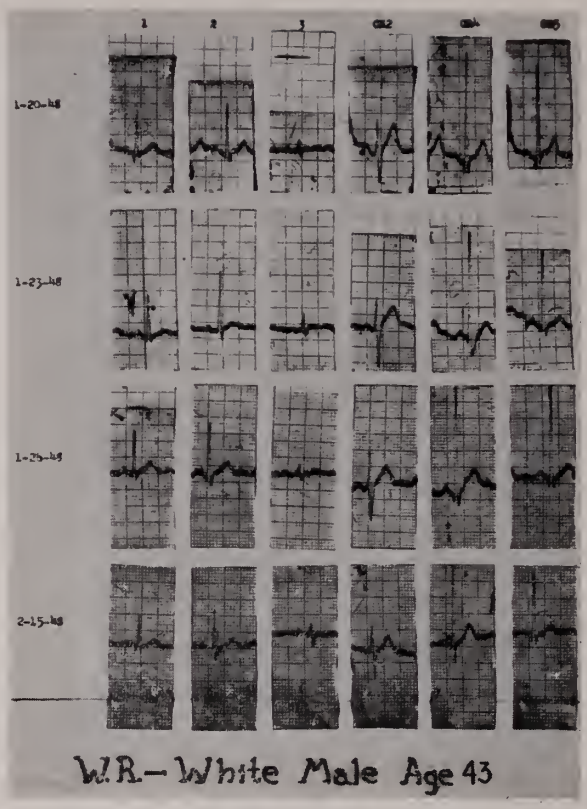

Fig. III

one week before admission to the C. and O. Hospital, he had a recurrence of precordial pain which was similar to the earlier attack and aggravated by the same conditions. For four or five days prior to admission he had a non-productive cough and elevation of temperature. He recalled that he had had tonsillitis shortly before the first episode of pain.

On physical examination, atelectatic rales were heard in both lung bases posteriorly. There was a typical to and fro pericardial rub, heard over the entire precordium. The heart was enlarged both to the right and to the left. The neck veins were not engorged and the liver was not enlarged.

Laboratory findings: On admission the hemoglobin was 80%, red count was 4.06 million, white count 8,350 with a normal differential. The white count increased to 14,500 two days later but was down to 7,900 one week after admission. Sedimentation rate was 19-24 on admission and 21-25 two weeks later. However, one month later it was 7-14. The urine was negative. Sputum examination for acid fast bacilli and blood cultures was negative. Circulation time was 12 seconds and the venous pressure was 135 mm. of water on admission.

X-ray and fluoroscopic examinations: On admission the heart size was greatly increased and the cardiac pulsations were of poor quality. Serial orthodiagrams were done and the heart was seen to decrease progressively in size. (Figure IV.)

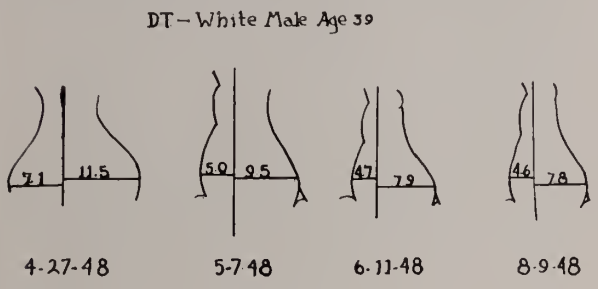

Fig. IV

Electrocardiographic findings: On April 27, 1948, the T-waves were inverted in leads 1, 2, and 3, AVL, CV-4, and CV-5. By April 30, 1948, TAV-F and TCV-2 had become inverted; the other leads were essentially the same. The tracing of May 8, 1948, showed the T-waves to be more deeply inverted. On August 9, 1948, the tracing was normal. (Figure V).

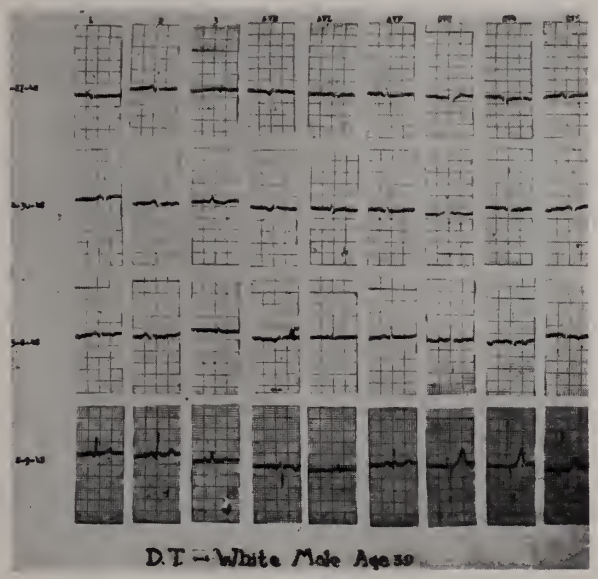

Fig. V

Course: During the first five days the temperature ranged from 99 to 102 degrees F., after which it gradually subsided. The chest pain was present for about one week and was absent at the time of discharge 17 days after admission. The patient was treated with opiates for pain and was given 50,000 units of penicillin intramuscularly every three hours until a total dosage of 2,300,000 units had been given and his temperature had remained normal for three days. He was seen also on August 9, 1948, and had no symptoms. The EKG and orthodiagram had returned to normal.

Case IV—C. A., a 27 year old colored male, was admitted to the hospital on May 13, 1948, with the chief complaint of "pain in the chest". He had been in good health until six days prior to admission when he awoke at 3 A. M. with severe aching pain over the entire precordium, radiating to the shoulders and down the left arm. The pain was found to be accentuated by breathing and talking. From the time of onset of pain the patient was dyspneic. Several nights prior to admission he had a chill.

On physical examination a harsh scraping to and fro rub was heard over the entire precordium, especially along the left sternal border. The heart sounds were distant and the heart was enlarged 2 cm. to the left of the left nipple line. Crepitant rales were heard at the right base, posteriorly.

Laboratory findings: The leukocyte count was 14,100 on admission with 66 segmented neutrophils, 27 lymphocytes, 3 monocytes, 1 stab neutrophil, and 3 eosinophiles. Five days later the count was 15,750 with essentially the same differential. Urinalysis, blood agglutinations, sputum examination for acid fast bacilli, and blood serology were all negative.

X-ray and fluoroscopic findings: X-ray of the chest on admission revealed the transverse diameter of the heart to be increased. There was a moderate amount of infiltration at the base of the right lung field. Fluoroscopic examination on the following day showed that the cardiac pulsations were very weak and the transverse diameter of the heart measured 18.5 cm. On June 13 the transverse diameter was 12.1 cm. (Figure VI). X-ray taken on June 10, at the time of discharge, revealed that the lung fields had cleared considerably.

Electrocardiographic changes: On the day fol-

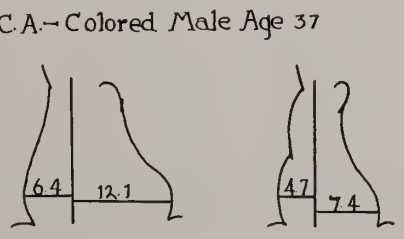

Fig. VI

lowing admission the ST segments were elevated in leads I, II, III, AVF, CV-2, 4, and 5. On May 25, 1948, T-1, T-2, and TCV-5 were rounded and the ST segments were not as elevated. By June 5, T-1, and TAVL were inverted and T-3 was upright whereas previously it had been isoelectric. The last EKG on July 13 was normal. (Figure VII).

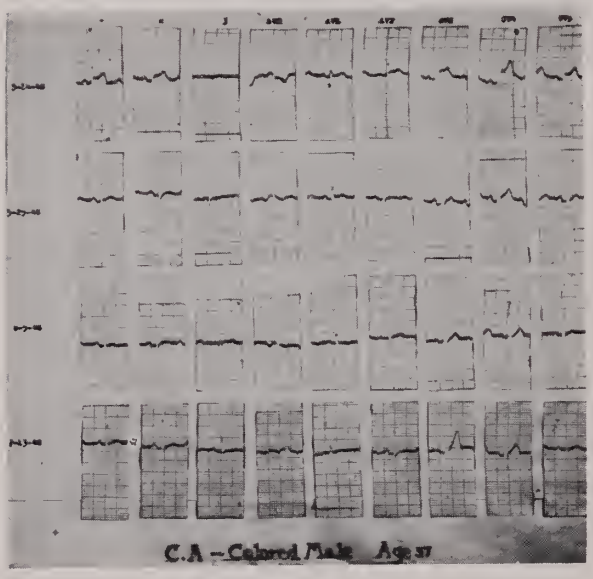

Fig. VII

COURSE: The patient's temperature was 100.4 degrees F. on admission. He was given morphine for pain and started on 50,000 units of crystalline penicillin every three hours, receiving a total of 8,125,000 units. The venous pressure was 110 mm. of water and the circulation time 17.5 seconds on admission. On May 15 a pleuro-pericardial rub was heard in the left anterior axillary line and on May 18, 600 cc. of clear bright amber fluid was obtained by thoracentesis from the left chest. During this time the patient continued to complain of severe chest pain aggravated by respiration. On May 19, a pericardial tap was done and 10 cc. of cloudy yellow fluid was obtained. Following withdrawal of the fluid 50 cc. of air was injected. X-ray of the chest following this procedure showed the air within the pericardial sac. Unfortunately the specimen obtained from the pericardial sac was lost enroute to the laboratory. On May 20 another thoracentesis of the left chest was done and 100 cc. of clear amber fluid was obtained. The patient continued to complain of pain and on May 29 he developed pain and limitation of motion of the left shoulder. The left supraclavicular fossa was obliterated and an indurated painful mass was felt at the base of the neck just above the medial third of the clavicle. Also, there was a tender nodule in the left axilla. Material aspirated from the left supraclavicular mass was a greyish red and semi-liquid. The specimen was blocked and microscopic examination did not reveal any tissue elements or tumor cells. The indurated mass subsided after several days and the patient began to improve On June 6, 25 days after admission, 200 cc. of straw colored fluid was removed from the left chest. Subsequent to this he rapidly improved and was discharged on June 10, 1948. He was seen on July 13 and was asymptomatic.

Case V—J. R., a 23 year old colored male, was in good health until the day prior to admission. At that time, he had a sudden onset of severe precordial pain which was so severe that he had to stop work. This pain was aggravated by respiration. The night before admission, he had had a chill and had vomited several times. He denied having ever had a similar episode. There was no history of an antecedent respiratory infection or rheumatic fever.

Physical examination revealed an acutely ill colored male complaining of chest pain. The throat was reddened and the remainder of the physical examination was negative. There was no friction rub.

Laboratory findings showed the white count to be 6,150 on admission, with a differential of 53 neutrophil segmentals, 1 stab, 44 lymphocytes, and 2 monocytes. The hemoglobin was 86% and the sedimentation rate was 11-19 by the Cutler method. Eleven days later it was 2-5. The urinalysis was normal. The sputum was negative for acid fast bacilli and blood culture was negative on three occasions.

X-ray and fluoroscopic findings: On the day following admission, x-ray showed the maximum diameter of the heart shadow to be 13.6 cm. Eight days later the maximum diameter was 11.8. An orthodiagram done nine days after admission showed that the cardiac pulsations were normal and transverse diameter was 11.7 cm. Five days later it was 10.8 cm. On December 17, 1948, transverse diameter was the same as that of the last tracing. (Figure VIII).

Electrocardiographic findings: On the day of admission, the ST segments were elevated in leads

1, 2, 3, AVF, CV-2, CV-4, and CV-5. The T-waves were peaked in leads 1, 2, CV-2, CV-4, and CV-5,

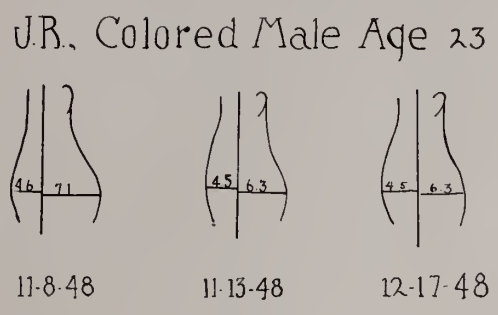

Fig. VIII

and inverted in lead 3. By November 8, the T-waves of the CV leads were inverted. On December 17, the EKG had returned to normal. (Figure IX).

Course: The venous pressure was 75 mm. of water and circulation time was 18 seconds three days after admission.

The patient was given 25,000 units of penicillin every three hours and received codeine for pain. He was never dyspneic and the chest pain persisted for three days. He progressively improved and was discharged 16 days following admission. On discharge, his sedimentation rate was 2-5 and his white count and differential were normal. He was seen one month after discharge and was doing well. His EKG at that time had returned to normal.

The interesting point in this case is the fact that a friction rub was never heard in spite of the fact that the heart was examined frequently.

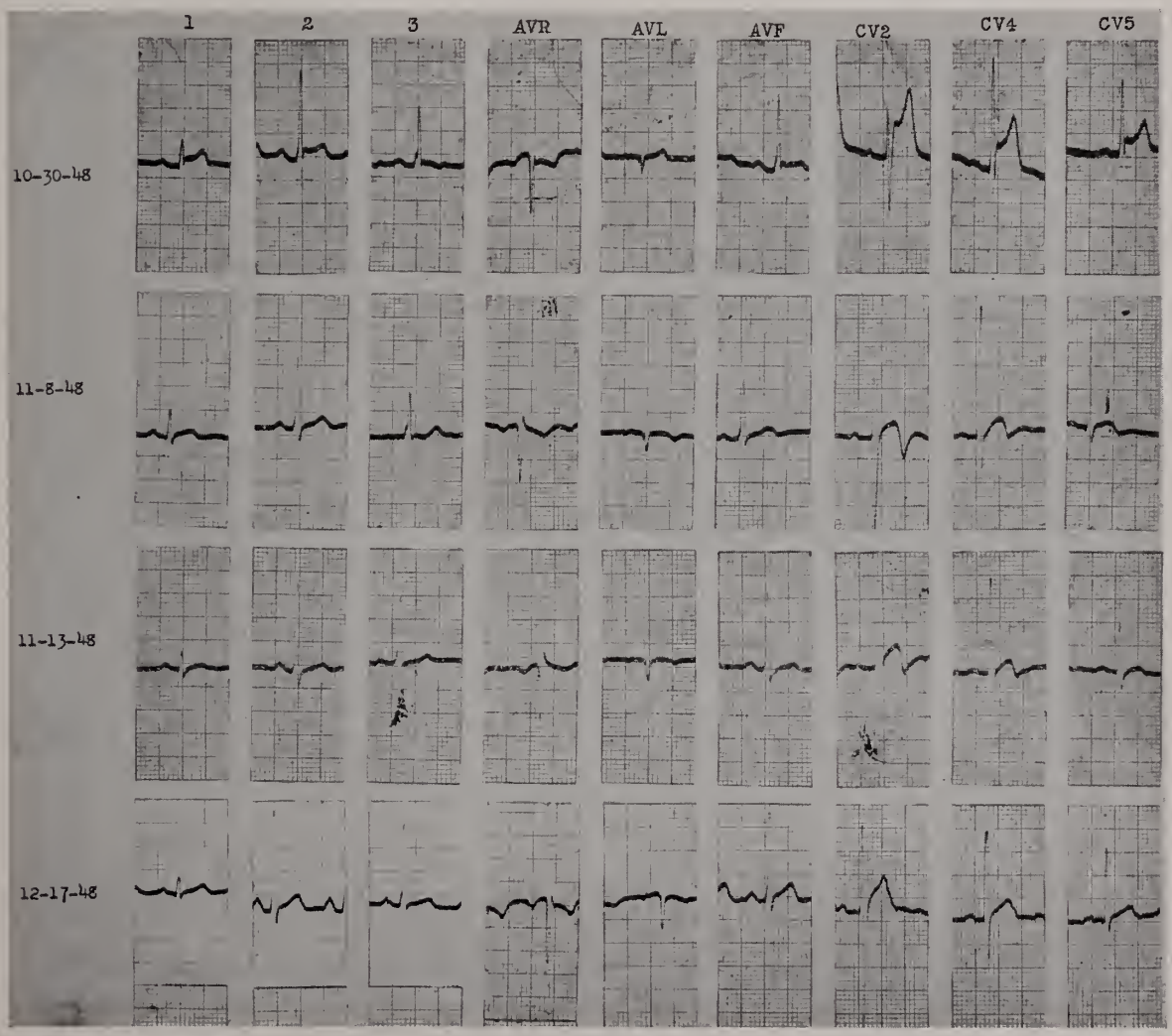

Fig. IX

NAME CASE AGE	HISTORY OF RESPIRATORY INFECTION	FRICTION RUB	PAIN	HEART SIZE	ELECTRO-CARDIOGRAM STT	VENOUS PRESSURE	CIRCULATION TIME	SED RATE (HIGHEST)	W.B.C. (HIGHEST)	PNEUMONIA	(1) Blood Culture (2) Sputum for Acid Fast Bacilli
F.H. I 41	Present	Present	Precordial	Enlarged	Diagnostic	170mm. H20 on admission. 219mm. H20 on day of tap. 85mm. H20 3 days after tap.	16 seconds (Ca Gluconate)	20-25	11,850	Absent	(1) Negative (2) Not Done
W.R. II 43	Present	Present	Substernal	Normal	? Diagnostic	Not Done	Not Done	9-14	11,150	Absent	(1) Negative (2) Not Done
D.T. III 39	Present	Present	Precordial	Enlarged	Diagnostic	135mm. H20	12 seconds Decholin	22-27	14,500	Absent	(1) Negative (2) Negative
C.A. IV 37	Absent	Present	Precordial	Enlarged	Diagnostic	155mm. H20 on admission. 6 days later 110mm. H20.	20 seconds Decholin	Not Done	15,750	Present	(1) Negative (2) Negative
J.R. V 23	Absent	Absent	Precordial	Enlarged	Diagnostic	75mm. H20	18 seconds Decholin	11-19	6,150	Absent	(1) Negative (2) Negative

Table I

REVIEW OF CASES

This paper is based on five cases that were seen at our hospital during a fourteen month period, from September, 1947, to November, 1948. (Table I). The youngest patient was 23 and the oldest 43 years of age. History of an upper respiratory infection was present in three and an atypical pneumonia was found to accompany case IV. Friction rub was present in all but one case, precordial pain was present in four cases and substernal in Case II. There was definite cardiac enlargement in four cases. The electrocardiographic changes were considered to be diagnostic in four cases and strongly suggestive in one. The venous pressure was elevated in three cases. The highest was 219 mm. of water (Case I). In Case II the venous pressure was not done. The longest circulation time was 20 seconds and the shortest was 12 seconds. The sedimentation rate was elevated in four cases and was not done in one. The highest was 22-27 in Case III and the lowest 9-14 in Case II. The highest white count was 15,750 in Case IV, the lowest 6,150 in Case V. Blood cultures were negative in all cases, and the sputum was negative for acid fast bacilli in the three cases in which they were done.

DISCUSSION

Just what is the etiology of acute non-specific pericarditis is unknown. It may be a manifestation of acute rheumatic fever and it is possible that these patients will develop valvular lesions in the future. It appears, therefore, important to follow these for the next 3-4 years.

The differential diagnosis between this disease and myocardial infarction is very important, since the prognosis is probably greatly different. Acute non-specific pericarditis may be a relatively benign disease, while we know that acute myocardial infarction with pericarditis is not. It behooves us, therefore, to be careful in making this differentiation.

Why the cardiac shadow is increased has been the subject of controversy; that is, whether it is due to increase in fluid or to cardiac dilatation.[7] In one of our cases (Case I) signs of tamponade developed. 200 cc. of fluid were removed, cardiac pulsations improved, but the shadow did not change in size. In another, Case IV, only a small amount of fluid could be removed when the shadow was increased. It appears, therefore, that both cardiac dilatation and the presence of fluid can and do occur. The dilatation has predominated in two cases with enlarged hearts, and in the third the pericardium was not tapped.

Four patients were treated with penicillin and the other was given nothing but sedation. Response was not particularly dramatic. The effect of penicillin on the course is not known.

SUMMARY

The clinical features of acute non-specific pericarditis have been reviewed and five cases presented which probably are examples of this disease.

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THE NEED FOR CONTINUED TREATMENT AND CONTROL OF VENEREAL DISEASES*

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During the war, vigorous measures were instituted and carried out in the control of venereal diseases. Some of the established procedures gained from war experience in venereal disease control are these: (1) value of accurate and complete contact histories and prompt follow-up; (2) advantage of rapid treatment methods over older, longer methods of treatment; (3) the necessity of a venereal disease control program in every community where there were concentrations of the Armed Forces or civilians employed in war work.

However, following the end of the war, it was only natural that vigorous venereal disease control would either slow down or come to a complete stop. That was true in this Health District. Following the return of the author from Service, a survey was made and it became immediately evident that whatever veneral disease control measures had been in effect had badly fallen down. It became obvious that it would be necessary to show that there was a definite need for continued venereal disease control in order to maintain interest in all concerned. It was decided that this could be done by examining all female inmates in the jails in Bristol and Abingdon, Virginia.

The Code of the State of Virginia[1] states that owing to the prevalence of venereal disease amongst vagrants, prostitutes, keepers, inmates, employers, and frequenters of houses of ill fame, prostitution, and assignation, persons "not of good fame", persons guilty of fornication, adultery, lewd and lascivious conduct, and illicit cohabitation, are to be considered and are hereby declared to be reasonably suspected of having syphilis, gonorrhea, lymphogranuloma inguinale, granuloma inguinale or chancroid and no such person convicted of any such charges shall be released until examined for such venereal diseases by the proper health officer, his deputy or assistants, or agents. It was under this section of the Code of Virginia that we established our program.

*Read before the Southwest Virginia Medical Society, May 24, 1949.

Next, the commonwealth attorney, judge of police court and trial justices, chiefs of police, sheriffs, city managers were visited and the program explained to them in detail. Further the police were kept on the alert for vagrants or women known to be soliciting and frequenting hotels, beer-joints, etc. The police, once they realized they had the support, particularly of the courts, were extremely helpful in locating and picking up these women and known contacts of venereal disease. They also transported women from the jail to the health department and clinics. The lay investigator worked diligently to establish this as a police routine. Once it was established, only periodic visits to the police were needed. The investigator played a large part in maintaining their interest and stimulating their efforts. At the present time, very close to one hundred per cent of all women admitted to the Bristol or Abingdon jails are examined for both syphilis and gonorrhea.

Progress at first was excellent as there was plenty of material available. Forty-two women were examined the first month. All were examined for both syphilis and gonorrhea. The standard Kahn and direct smear method were used. The clinic physicians and nurses were carefully instructed in the Pelouze method for obtaining a gonorrhea smear[2] and 15 of the 42 examined were found to have gonorrhea. Sixteen were found to have a positive Kahn. Of the 16 positive for syphilis, 5 were found to be new cases and were treated at the rapid treatment center. With both the health officer and the lay investigator using this information in order to stimulate interest, the venereal disease program has continued up to the present time.

Other approaches were made than through the law enforcement agencies. Newspapers were kept up-to-date on the findings and were most cooperative in publishing any information furnished them. The following headlines appeared in the Bristol Herald Courier April 14, 1947, five months after the program was started:

All VD Suspects in Bristol Jail Being Examined, Treated

Large Percentage of Girls and Women Arrested in Bristol, Virginia, Found to Have Venereal Disease. Control Program For City Intensified; Lay Investigators Prove Valuable to Program.

All hotel and tourist court operators were contacted and urged to discourage use of their establishment to known prostitutes and transient women. All operators have been very cooperative in making their hotel records available. This is extremely helpful in contact work.

The director of public welfare and the probation officer both cooperate in trying to place promiscuous girls in homes and in obtaining employment for them. This work has been only partially successful and needs greater stress placed on it. If this is done, better results can be achieved. This has been proven in the San Francisco experiment.[3]

In Figure #1 it will be noted that approximately 28 per cent of all white women examined had a positive Kahn. Of the 41 women with a positive Kahn 10, or 9 per cent, were found to have early syphilis and were treated at the rapid treatment center. All women found to have gonorrhea were treated at either the health department office or the venereal disease clinic. Of the 170 women examined, 5, or 3 per cent, were found to have both syphilis and gonorrhea. The number of negroes examined was insufficient to draw any significant statistical conclusion. There are few negroes in this part of Virginia.

Summary

1. A venereal disease case finding program was started in Bristol-Washington County, Virginia jails.

2. Twenty-eight per cent of all white women examined were found to have either syphilis or gonorrhea.

3. Five women in 170, or 3 per cent, were found to have both syphilis and gonorrhea.

4. The high incidence of venereal disease found in women in Bristol and Washington County jails indicates the need for a vigorous continuance of a venereal disease control program in Southwestern Virginia.

Color	No. Women Examined for Syphilis and Gonorrhea	Syphilis			Gonorrhea			Per cent with one or more infections	Per cent with double infection
		Positive	Negative	Per cent Infected	Positive	Negative	Per cent Infected		
White	170**	41	109	28	39	100	28	44	5
Colored*	9	6	2	75	—	8	—	75	—

FIG. No. 1. Chart showing statistical breakdown of all women examined from November, 1946, to November, 1948.

*Colored figures too small in number to be of statistical significance.
**Each person not always examined each time for both syphilis and gonorrhea for following reasons: (1) Recent known blood test; (2) Just completed penicillin treatment for syphilis; (3) Menstruation; (4) Known syphilitic.

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ALUMINUM FOIL AS A DRESSING FOR BURNS

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I realize fully that the treatment of the patient's general condition in burn therapy is much more important than the local therapy.

Vaseline and other ointments used for local dressings over burned areas cause a certain degree of maceration, and destroy tissue cells which otherwise would be helpful in the healing process.

During the past six months, we have used aluminum foil applied over the burned area under the pressure dressing. This foil can be obtained in varying thicknesses. It should be of sufficient thickness to prevent fragmentation—a thickness of .0005 has been satisfactory in our use. It is easily obtainable, non-toxic, cheap, easy to sterilize, easy to apply and more comfortable to the patient.

Showing application of aluminum foil.

Sheets of the foil are placed between layers of wrapping paper, made into rolls and sterilized by autoclaving. The foil is smoothed by hand onto the surface of the burn, allowing it to overlap the edge of the burn. The pressure dressing is applied in the usual manner.

Brown, Farmer and Franks state that, by virtue of the heat-reflecting property of aluminum foil, heat conservation may influence favorably the course of the illness, and that the foil, by providing a physical barrier under adequate pressure, appears to diminish the surface weeping, thereby conserving proteins. They also state that the maintenance of a dry dressing barrier offers a defense against bacterial invasion during the first ten days, as compared with the portal of entry provided by a dressing which becomes soggy following some forms of local therapy.

The dressing usually is changed at the end of ten days and reapplied in the same manner.

The foil also has been used over freshly grafted areas and over the donor site areas with success.

Patients who have had vaseline gauze applied at one dressing, and aluminum foil at another, find the foil dressing more comfortable.

Note: The aluminum foil has been supplied by Reynolds Metals Company, Richmond, Virginia.

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PUBLIC HEALTH

L. J. ROPER, M.D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Disease Control of the State Department of Health for October 1949 as compared with the same month in 1948, and for the period of January through October 1949 compared with the same period in 1948, is as follows:

	Oct. 1949	Oct. 1948	Jan.-Oct. 1949	Jan.-Oct. 1948
Typhoid and paratyphoid	26	11	130	120
Diarrhea and Dysentery	532	617	5,433	3,934
Measles	26	149	21,302	6,279
Scarlet fever	75	77	589	716
Diphtheria	32	33	138	192
Poliomyelitis	57	101	304	511
Meningitis	0	5	73	78
Brucellosis	6	4	61	73
Rocky Mountain spotted fever	4	4	101	64
Tularemia	0	2	28	47

HISTORY OF AMERICAN EPIDEMIOLOGY

One of the outstanding programs of the 77th Annual Meeting of the American Public Health Association was entitled "The History of American Epidemiology". The following were the topics and speakers:

The Colonial Era and the First Years of the Republic (1620-1799). C.-E. A. Winslow, Dr. P. H., Editor American Journal Public Health.

The Period of Great Epidemics (1800-1875). W. G. Smillie, M.D., Professor of Public Health and Preventive Medicine, Cornell University, New York.

The Bacteriological Era (1876-1920). James A. Doull, M.D., Medical Director Leonard Wood Memorial, American Leprosy Foundation, Washington, D. C.

The Twentieth Century—Yesterday, Today, and Tomorrow. John E. Gordon, M.D., Professor of Epidemiology, Harvard University Medical School, Boston, Massachusetts.

An early public health minded figure of the Colonial Period was the great preacher, Cotton Mather, (1663-1728), who defied the vindictive prejudice of the medical profession and the lay community of his day by practicing and preaching inoculation against smallpox.

Today it is hard to realize the intensity and frequency of the epidemics of typhus, cholera, yellow fever and smallpox that ravaged American cities in the early part of the 19th Century. One of the great figures of this period is Benjamin Rush (1745-1813) —physician—teacher—patriot, who, though he did not guess the bacterial origin of disease, studied environmental conditions which he believed to be significant in disease causation.

The achievements in the bacteriological era are too recent and familiar to need recounting. Progress made in the conquest of typhoid, smallpox, diphtheria, tuberculosis and venereal diseases are well known stories.

Progress in the treatment and control of communicable disease has been tremendously advanced by the discovery and widespread use of the antibiotics. Dramatic results from the use of penicillin, streptomycin, aureomycin and chloromycetin are achieved daily. Especially dramatic are the results in Rocky Mountain spotted fever, typhoid fever, brucellosis, bacterial endocarditis, streptococcal infections, the venereal diseases, tularemia, typhus, and primary atypical pneumonia. An equal value of the antibiotics as preventives has not been demonstrated.

With the spectacular results of chloromycetin in the treatment of typhoid fever it was hoped that this agent might be effective in the treatment of typhoid carriers. An intensive experiment in Detroit has been undertaken but to date the results are disappointing. Typhoid bacilli have disappeared from the stools of carriers while under treatment, but have reappeared when treatment was discontinued. At present research in this field is being carried on with larger doses and shorter intervals.

With the increased expectancy of life, the present day emphasis is on the diseases of an aging population, namely, diseases of the heart, cancer, tuberculosis, and complications of high blood pressure. These today are the conditions on which physicians, public health men and research workers are focusing their epidemiological attention.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director*

The President's Objectives.

Dr. W. C. Caudill, elected President of the Medical Society of Virginia for 1949-1950, made public at the Annual Convention at Old Point Comfort his objectives to be carried out during the year.

The points set forth in his program are pertinent and vital in insuring continued progress of the medical profession in Virginia. The Society should be strengthened in membership and in framework. Some of the proposed activities are: more active local societies, a broader Public Relations program and active support of existing agencies that contribute to better health standards in Virginia.

It is believed that the leadership of the Society is in competent hands and that the Presidency of Dr. Caudill will be marked by success, as was that of his predecessor, Dr. M. Pierce Rucker.

Professional Relations and Public Relations.

It seems appropriate to point out from observations at the annual session of the Medical Society of Virginia at Old Point Comfort, the public relations affected by the professional relations of the convention.

Dr. Chester Bradley, local publicity chairman, handled excellently the preconvention publicity, bringing out the historical background of both the Medical Society and Old Point Comfort. The cooperation of the local, state-wide and Associated press, was of great value in stirring public interest in not only the historical, scientific and social aspects of this convention, but also in the "cause" of our doctors in Virginia.

This local publicity and the arrangements for the entertainment and social aspects of the convention under the direction of Dr. Waverly R. Payne, Dr. E. L. Alexander, and others, were outstanding as professional-public relations.

Those in charge of scientific and commercial exhibits should feel complimented not only from the standpoint of the provision made for them, but because of the study and comment on them.

The boat-ride around Hampton Roads arranged by the Women's Auxiliary, the alumni dinners, the banquet with the Negro Glee-club and the Honorable Josh Lee, the entertainment on the Roof Garden, as well as the out-of-state guest speakers, each of these activities in itself, and moreover, all of them put together, contribute to a very essential "esprit de corps".

The hospitality extended by the private homes and doctors of the local area, and the "all-out" effort on the part of the hotel management and staff seems an indication of the respect and attitude of the lay-public to the medical profession in this state.

These evidences of a common purpose and determined effort on the part of the membership of our organization indicate a complementary status of the Society. It is only through understanding and cooperative effort between and among doctors, and a similar relationship between the medical profession and the lay-public that our objective of medical care can best be effected.

W. C. CAUDILL, M.D., *President*
Medical Society of Virginia

General Practitioner Honored.

At the Annual Meeting of the House of Delegates of the Medical Society of Virginia at Old Point Comfort in October, Dr. Henry W. Decker of Richmond was chosen the "General Practitioner of the Year" for Virginia.

By virtue of this recognition, Dr. Decker automatically became an eligible candidate for this honor on a national level.

His years as a general practitioner have been marked by outstanding service to his profession and leadership in civic and church affairs.

Virginia Council on Health and Medical Care Issues Special Report.

Special Report #1 prepared by the Virginia Council on Health and Medical Care is entitled "Virginia Citizens Find Mental Hospitals In Urgent Need".

The impressions presented in the report are those of a committee of 21 people authorized by the Executive Committee of the Mental Hygiene Society of Virginia. It was their task to study the care and treatment of the mentally ill and the prevention of the mental illness.

The opinions presented seemed to indicate that the shortage of physicians, psychiatrists, and trained attendants provides the acute problem to overcome. The services rendered by those now attending the mentally ill are excellent but not adequate. In the six hospitals for the mentally ill there are 11,944 patients and only 23 physicians; a ratio of one physician to every 511 patients.*

According to Dr. Joseph E. Barrett, Commissioner of Mental Hygiene for Virginia, 75 of every 100 persons committed to a mental hospital with acute psychiatric disorders could be returned to their homes within one year if they received the proper care.*

It is believed that before any planning would be effective the budgetary deficit of the mental hospitals should be remedied and the salary scales for psychiatrists be made comparable to those of other states.

The Virginia Council on Health and Medical Care has for several years been emphasizing in its published reports the needs of the mental hospitals.

Educational Campaign Literature Distributed.

October, "the beginning emphasis month" for the wide distribution of literature on the subject of socialized medicine, has been a busy one.

In preparing for this, approximately 250,000 pieces of literature were disseminated to the physicians, dentists and pharmacists of Virginia. Of those participating, the pharmacists gave the best response on the basis of organization membership, with the physicians and dentists following in that order.

*Figures taken from the Special Report No. 1 of the Virginia Council on Health and Medical Care.

Of the five pieces of literature made available, the "Fildes Folder" ranked first with the largest number requested.

Word from Mr. J. Curtis Nottingham, Executive Secretary of the Virginia Pharmaceutical Association, emphasizes that the pharmacists are cooperating to make this campaign a success. It is believed that this spirit is prevalent among all those participating.

It should be remembered that the end of October does not mean the end of the emphasis program. It is just the beginning.

National Public Relations Conference.

The Second Annual Public Relations Conference of the American Medical Association was held Saturday and Sunday, November 5-6, 1949, in Chicago.

Morning and afternoon sessions of Saturday convened at the A. M. A. Headquarters with the welcoming address being delivered by Dr. George F. Lull, Secretary and General Manager of the A. M. A.

Comments on the Conference were made by Mr. Lawrence W. Rember, Public Relations Director of the A. M. A.

The dinner meeting that evening was at the Bismarck Hotel with Dr. Louis Bauer, Chairman of the Board of Trustees of the American Medical Association serving as Toastmaster and Dr. Ernest E. Irons, President of the A. M. A. and Mr. Leonard E. Read, President, Foundation for Economic Education appearing as speakers on the program.

A "Get It Off Your Chest" session was held Sunday morning, which proved to be stimulating and interesting.

The conference ended with a luncheon meeting with Dr. Elmer L. Henderson, President-Elect of the A. M. A. as Toastmaster. The concluding address, "Public Relations is Our Business", was presented by Mr. Averell Broughton, President of the Public Relations Society of America.

PROCEEDINGS

MEDICAL SOCIETY OF VIRGINIA

1949 ANNUAL MEETING

Old Point Comfort

October 9, 10, 11, 12, 1949

The Medical Society of Virginia held its 102nd meeting at the Chamberlin Hotel, Old Point, Fort Monroe, October 9, 10, 11 and 12, 1949. Owing to illness of the President, Dr. M. Pierce Rucker of Richmond, the President-Elect, Dr. W. C. Caudill of Pearisburg, presided with the help of the vice-presidents. The registered attendance included 627 doctors, 200 of the Woman's Auxiliary, and about 100 exhibitors. The business sessions were held on Sunday and Monday. Alumni dinners, special society luncheon meetings, and the banquet and entertainment on Tuesday added to the interest of those attending.

SCIENTIFIC SESSIONS

Medical Section

Monday, October 10, 9:00 A.M.

The Medical Section of the Medical Society of Virginia met in the Virginia Room, Chamberlin Hotel, Old Point Comfort, Fort Monroe, on Monday, October 10, 1949, at nine o'clock a. m. Dr. C. L. Outland, of Richmond, first vice-president of the Society, called the meeting to order and presided.

The first paper on the program, that of Drs. T. N. Hunnicutt, Jr., Harry Nushan, and Benjamin Miller, of Newport News, entitled "Sarcoidosis, a Survey and Clinical Study", was read by Dr. Hunnicutt. It was discussed by Dr. Edward S. Ray, Richmond; Dr. Dean B. Cole, Richmond; and by Dr. Nushan and Dr. Miller.

Dr. John F. Williams, Richmond, read his paper entitled "Psychosomatic Medicine: Mechanisms Common to Some Gastro-Intestinal Dysfunctions", which was discussed by Dr. John Taylor Ransone, Newport News, and by Dr. Williams in closing.

The paper of Dr. F. C. McCall, of Bristol, and Dr. J. H. Scherer, of Richmond, entitled "The Treatment of Acute Leukemia with Aminopterin", was read by Dr. McCall and was discussed by Dr. John E. Stevens, of Richmond.

The program for this session of the Medical Section having been completed, a recess was taken to give the members opportunity to visit the exhibits.

General Session

Monday, October 10, 9:00 A. M.

The Surgical Section of the Medical Society of Virginia opened at 9:00 A.M., October 10, 1949, with Dr. J. T. T. Hundley, presiding.

Three technical papers were presented in this session.

Dr. Carrington Williams, Jr., of Richmond, presented his paper entitled "Surgical Aspects of Neurofibromas", with discussion by Dr. Frank P. Coleman, Richmond, and Dr. Hugh H. Trout, Roanoke.

The second paper, "Surgery of the Gall Bladder", was presented by Dr. Frank S. Johns, of Richmond, and was illustrated with slides. Dr. C. M. Caravati of Richmond led the discussion on this subject.

Dr. James L. Thomson of Norfolk, presented the final paper "The Diagnosis and Treatment of Ruptured Cervical Disc", with the discussion led by Dr. W. Gayle Crutchfield, of Charlottesville.

General Session

Monday, October 10, 10:45 A.M.

The first general session of the 1949 annual meeting of the Medical Society of Virginia was held in the Virginia Room of the Chamberlin Hotel on Monday, October 10, beginning at 10:45 a.m. Dr. W. C. Caudill, of Pearisburg, President-Elect, presided.

At the request of Chairman Caudill, Dr. Ennion S. Williams, Richmond, introduced the first speaker, Dr. R. Lomax Wells, of Washington, D. C. (guest). Dr. Wells then read his paper on "The Present-Day Concept of Industrial Medicine".

Dr. Walter O. Klingman, of Charlottesville, read his paper entitled "Pain Mechanisms Associated with Headache", which was discussed by Dr. Thomas N. Spessard, of Norfolk, and in closing by Dr. Klingman.

The paper of Drs. Daniel D. Chiles and James P. King, Radford, on "Psychiatric Implications in Gereology", was read by Dr. King. It was discussed by Dr. Thomas N. Spessard, Norfolk, and Dr. Walter O. Klingman, Charlottesville, and in closing by Dr. King.

The program having been completed, the first general session then adjourned.

General Session

Monday, October 10, 2:30 P.M.

The Medical Society of Virginia reconvened in general session in the Virginia Room of the Chamberlin Hotel at 2:30 p.m. on Monday, October 10, and was called to order by Dr. C. L. Outland, of Richmond, Vice-President of the Society, who acted as chairman.

The paper of Dr. E. M. Holmes, Jr., and Dr. Paul Bowden, of Richmond, on "Use of Penicillin for Treatment of Early Cases of Syphilis in the City of Richmond" was read by Dr. Bowden. It was discussed by Dr. Thomas W. Murrell, Sr., Richmond; Dr. W. L. Eastlack, South Boston; Dr. Dudley C. Smith, Charlottesville; Dr. E. E.

Barksdale, Washington, D. C.; and in closing by Dr. Holmes.

The paper of Drs. Edgar C. Harper and Wyatt E. Roye, Richmond, entitled "Tuberculosis Control Program in a General Hospital" was read by Dr. Harper and was discussed by Dr. Samuel Richman, Richmond, and Dr. W. F. Wagner, of the State Health Department, Richmond, and in closing by Dr. Harper.

Dr. William E. Apperson, Blue Ridge Sanatorium, Charlottesville, read his paper entitled "Streptomycin in Tuberculosis, Its Use and Abuse", which was discussed by Dr. E. C. Drash, of Charlottesville. Dr. Apperson then closed the discussion.

The program having been completed, this session then adjourned.

Clinical Pathological Conference
Monday, October 10, 4:00 P.M.

A clinical pathological conference was held in the roof-garden assembly room of the Hotel Chamberlin on Monday afternoon, October 10, following the adjournment of the general session. Dr. J. T. T. Hundley of Lynchburg, one of the Vice-Presidents, presided. Two case histories, one from the hospital of the Medical College of Virginia and one from the University of Virginia Hospital, were discussed, the first by Dr. William Parson, of the University of Virginia, Charlottesville, and the other by Dr. William B. Porter, Medical College of Virginia, Richmond, and diagnoses were given.

The conference then adjourned.

General Session
Monday, October 10, 8:30 P.M.

The Medical Society of Virginia met in general session in the roof-garden assembly room of the Chamberlin Hotel at 8:30 p.m. on Monday, October 10, 1949. Dr. Waverly R. Payne, of Newport News, Chairman of the Committee on Arrangments, called the meeting to order and presided as chairman.

The invocation was said by the Reverend Carter H. Harrison, Rector of St. John's Episcopal Church, Hampton.

Colonel E. M. Fickett, Deputy Post Commander, Fort Monroe, delivered the address of welcome.

Certificates of membership in the "Fifty-Year Club" of the Medical Society of Virginia were presented to the following physicians:

Howard Armstrong.
Tremain Ernst Armstrong.
George Edward Barksdale.
John Calvin Cutler.
Arthur Joseph Edwards.
George Washington Gay, Jr.
J. Gates Goode.
Robert W. Holley.
Ernest R. Martin.
William Thomas McLemore.
Benjamin Crumpacker Moomaw.
Edwin Jones Nixon.
Archibald Osborne.
Chichester Tapscott Peirce.
Emmett F. Reese, Jr.
John Cary Sleet.
Williamson Crothers Welburn.
J. Belmont Woodson.

In the presentation of the certificates Chairman Payne spoke as follows:

"We come at this time to a very pleasant phase of our meeting, and that is the awarding of certificates to members of our Fifty-Year Club, composed of men who have been in practice fifty years or more. I am sure that many of those men are not present, but I ask those who are here to stand when their names are called, and Miss Watkins will present each one with a certificate.

"I assure you gentlemen that it is a great pleasure to present these certificates, and we wish for you many more successful and happy years."

The Chairman then presented Dr. W. C. Caudill, of Pearisburg, President-Elect, and the Past Presidents who were in attendance.

CHAIRMAN PAYNE: At this time I want to present Dr. A. M. Showalter, of Christiansburg, Chairman of the Membership Committee, who will conduct the Memorial Hour.

DR. A. M. SHOWALTER, Chairman, Membership Committee: Mr. Chairman, ladies, and gentlemen, as Chairman of the Membership Committee I will read at this time a list of the members of the Medical Society of Virginia who have died during the last twelve months.

MEMBERS WHOSE DEATHS HAVE BEEN REPORTED SINCE 1948 MEETING

Dr. Joseph James Anderson, Richmond, May 19, 1949.
Dr. Clifford Harry Beach, Richmond, February 16, 1949.
Dr. Staige Davis Blackford, Charlottesville, July 17, 1949.
Dr. Charles Armistead Blanton, Richmond, September 6, 1949.
Dr. Philip Williams Boyd, Jr., Winchester, February 17, 1949.
Dr. William Norwood Breckinridge, Fincastle, March 21, 1949.
Dr. Isham Keith Briggs, South Boston, February 8, 1949.
Dr. Irving Lee Chapman, Norfolk, January 20, 1949.
Dr. George Gilbert Crawford, Strasburg, August 6, 1949.
Dr. Hugh S. Cumming, Washington, D. C., December 20, 1948.
Dr. Charles Olive Dearmont, White Post, February 23, 1949.
Dr. Arthur Hamilton Deekens, New Orleans, La., May 29, 1949.
Dr. Charles Bickley Fox, Monterey, January 26, 1949.
Dr. John William Freed, Staunton, June 2, 1949.
Dr. Charles Radford Fugate, Clinchport, December 21, 1947.
Dr. Robert Vivien Funsten, Charlottesville, July 25, 1949.
Dr. George Blight Harrison, Fredericksburg, May 17, 1949.
Dr. Isaac Carrington Harrison, Danville, March 12, 1949.
Dr. Philip Launcelot Hill, Petersburg, August 8, 1949.
Dr. Rufus S. Kight, Norfolk, February 12, 1949.
Dr. Hunter Holmes McGuire, Winchester, January 21, 1949.
Dr. Stuart McGuire, Richmond, October 27, 1948.
Dr. William Douglas Macon, Charlottesville, December 30, 1948.
Dr. Lucius D. Morgan, Gladys, March 10, 1949.
Dr. William Gerry Morgan, Washington, D. C., July 7, 1949.

Dr. Frank J. Morrison, Suffolk, July 17, 1949.
Dr. Wilbur Moorhead Phelps, Cape Charles, July 28, 1949.
Dr. Henry Garnett Plaster, Washington, D. C., August 3, 1949.
Dr. Harry Howard Pope, Ivanhoe, July 18, 1948.
Dr. Benjamin Franklin Randolph, Arrington, March 30, 1949.
Dr. Frank Harrell Redwood, Norfolk, May 27, 1949.
Dr. Charles Russell Robins, Richmond, October 16, 1948.
Dr. Andrew George Shetter, Richmond, December 13, 1948.
Dr. George Lee Smith, Richmond, November 22, 1948.
Dr. Albert Micou Sneed, Toano, July 29, 1949.
Dr. Hack Urquhart Stephenson, Richmond, January 20, 1949.
Dr. Fernando A. Ward, Suffolk, October 9, 1948.
Dr. Talmage Bryan Weatherly, Richmond, September 4, 1949.
Dr. George Clegg Williams, Pearisburg, May 29, 1949.
Dr. Walter Lewis Williams, Brookneal, June 26, 1949.

CHAIRMAN PAYNE: Ladies and gentlemen, in respect to those members and in honor of their memory, will you stand for a moment?

(Those present stood in silence for a moment.)

CHAIRMAN PAYNE: Ladies and gentlemen, at this time it would have been my privilege and pleasure to introduce our beloved President, Dr. M. Pierce Rucker, of Richmond. Dr. Rucker, a native of Virginia, has devoted nearly a half century to the practice of medicine. He has lived a full life, crowned with achievements. Most of you know him as well as I, and therefore it would be of no purpose to enumerate his accomplishments in medicine. He has been President of this Society since last October and has worked faithfully and tirelessly for its advancement. It is said that during the current year he has missed no important committee meeting concerned with the affairs of the organization. In addition to that he has carried on his practice and the editorship of the VIRGINIA MEDICAL MONTHLY, both in an outstanding manner.

The high light of any medical meeting is the presidential address, which crystallizes many hours of thought, study, and preparation. We are not only disappointed that Dr. Rucker cannot be with us tonight but deeply sorry that he is ill. He has requested that his paper be read by the First Vice-President, Dr. Charles L. Outland. Before presenting Dr. Outland I want to make this one additional statement—that I have heard within the hour that Dr. Rucker's condition is very much improved. I know you will all be delighted to hear that.

The title of Dr. Rucker's paper is "The Future of Medicine in Virginia", and it will now be presented by Dr. Outland.

DR. CHARLES L. OUTLAND, Vice-President, Richmond: Mr. Chairman, ladies, and gentlemen, I only hope that I can do this paper justice, and I trust that you will bear with my shortcomings.

Dr. Outland then read the President's Address.

CHAIRMAN PAYNE: At this time it is my pleasure to introduce one of our guest speakers. I, frankly, had not had the pleasure of meeting this gentleman until I came to the hall this evening. Knowing that he is a pediatrician and thinking that all pediatricians are in the bantam class, weighing around 125 pounds, I was amazed to meet this gentleman from Durham. I asked Dr. Davison how many pediatricians in the United States are deans of medical schools, and he said that so far as he knew there are five. He said he thought the reason for having pediatricians as deans of medical schools is that they might be better able to understand the childlike behavior of both their faculties and students.

Our next speaker is an able physician and a writer of note. He has contributed for a number of years to various medical journals. He is the full-time professor of pediatrics and Dean of the Duke University Medical School. I now take pleasure in presenting to you Dr. Wilburt C. Davison, Dean of the Medical School of Duke University, Durham, North Carolina. Dr. Davison.

Dr. Davison then addressed the Society on the subject of "Sir William Osler—Reminiscences".

CHAIRMAN PAYNE: Thank you, Dr. Davison.

At this time I want to introduce our next guest speaker. This gentleman is a past president and one of the organizers of the Southeastern Surgical Association and is now President of the Southern Congress of Surgeons and a director of the World Medical Association; he is a well-known Southern surgeon and is director of the Acuff Clinic, in Knoxville, Tennessee. It is my pleasure now to introduce Dr. Herbert Acuff, who will speak on the World Medical Association. Dr. Acuff.

DR. HERBERT ACUFF, Director, World Medical Association, Knoxville, Tenn.: Mr. Chairman, ladies, and gentlemen, members of the Medical Society of Virginia, I just want to express my appreciation for the opportunity of coming here and to say I have had a wonderful time during the day and have enjoyed meeting many of you whom I have not previously known. I want to bring you the greetings of the President of the World Medical Association and Director of the United States Council, who is now President-Elect of the American Medical Association, Dr. Elmer L. Henderson.

Dr. Acuff then read his prepared paper.

CHAIRMAN PAYNE: Thank you very much, Dr. Acuff.

That concludes our program for this session, and I now have one or two announcements to make.

Dr. Payne made some announcements regarding features of Tuesday's program, after which the evening session adjourned.

Medical Section

Tuesday, October 11, 9:15 A.M.

The Medical Section of the Medical Society of Virginia reconvened in the Virginia Room of the Chamberlin Hotel on Tuesday morning, October 11, and was called to order by Dr. Charles L. Outland, Vice-President, at 9:10 o'clock.

The paper of Drs. Reno R. Porter, John W. Massey, Jr., and William Anderson, of Richmond, entitled "Management of the Complications of Acute Myocardial In-

farction" was read by Dr. Porter and was discussed by Dr. Julian R. Beckwith, of Clifton Forge.

The Chairman announced that, if there was no objection, the next two papers, being on closely related subjects, would be read and the primary discussion on each one given, after which the general discussion of all three papers would be entered into. No objection was heard, and this plan was followed.

The paper of Drs. Julian R. Beckwith and Robert H. Sease, of Clifton Forge, on "Anti-Coagulant Therapy in Myocardial Infarction" was read by Dr. Beckwith and was discussed by Dr. Paul D. Camp, Richmond.

The paper of Dr. Paul D. Camp and Dr. Oscar Clarke, Richmond, entitled "The Differential Diagnosis of Acute Infectious 'Idiopathic' Pedicarditis and Myocardial Infarction" was read by Dr. Camp and was discussed by Dr. Wellford Reed, of Richmond. Dr. Clarke then emphasized some of the points made by Dr. Camp in the paper read.

The three papers were thrown open to general discussion, and several questions were asked. The papers were then discussed by Dr. Moseley, of Florida; Dr. D. G. Chapman, Richmond; Dr. E. E. Haddock, Richmond; and in closing by Dr. Beckwith, Dr. Reno Porter, and Dr. Camp.

A member requested that this group of papers be published together, along with the discussions, so that they might be readily available to the members of the Society for study.

The program having been completed, the Medical Section then recessed.

Psychiatric Session

Tuesday, October 11, 9:00 A. M.

The Psychiatric Section of the Medical Society of Virginia opened at 9:00 A.M., October 11, 1949, with Dr. C. L. Outland presiding.

Dr. Finley Gayle of Richmond, presented the first technical paper entitled "The Alcoholic Problem". Discussion of this paper was led by Dr. Harvey B. Haag of Richmond.

"The Present Status of Electroencephalography and Its Importance In the General Practice of Medicine" was presented by Dr. I. S. Zfass of Richmond, and was discussed by Dr. J. B. Funkhouser of Richmond.

Dr. Patrick H. Drewry of Richmond presented his paper, "The Management of Delirium in the General Hospital", which was prepared in collaboration with Dr. J. B. Funkhouser. This was discussed by Dr. John Powell Williams and Dr. James Otey Burke, both of Richmond.

General Session

Tuesday, October 11, 11:00 A.M.

The Medical Society of Virginia met in general session in the roof-garden assembly room of the Chamberlin Hotel on Tuesday morning, October 11, and was called to order at 11:00 o'clock by Dr. J. T. T. Hundley, Vice-President, of Lynchburg, who acted as chairman.

Chairman Hundley announced that, in order to give more time for setting up the motion-picture projector, the paper of Dr. Mark M. Ravitch would be given later instead of at the beginning of the session.

Dr. M. Morris Pinckney, Richmond, read his paper entitled "The Differential Diagnosis of Medical and Surgical Jaundice". This was discussed by Dr. James Otey Burke, Richmond; Dr. Charles M. Caravati, Richmond; and in closing by Dr. Pinckney.

The paper of Drs. Lee E. Sutton, Jr., and F. L. Angell, Richmond, entitled "Poliomyelitis: Respiration Embarrassment" was read by Dr. Sutton and was discussed by Dr. Edward S. Ray, Richmond, and in closing by Dr. Sutton.

At the request of the Chairman, Dr. Frank S. Johns, Richmond, introduced Dr. Ravitch, speaking as follows:

"Mr. Chairman, ladies, and gentlemen, about a year ago Dr. Rucker asked me to secure a speaker for the Surgical Section. I asked him what type of surgical speaker he desired, and he said his only request was for one of an investigative turn of mind. I am glad to say that our speaker this morning fills that bill very well, for he is an investigator of rare ability. He has contributed very liberally to the literature; to enumerate his works would consume the rest of this morning's program. He has had the very great honor, which few young Americans have had, of being invited to give a lecture before the Royal College of Surgeons. So far as I know, Dr. Ravitch is the youngest American that has been invited to lecture to that body. It is my pleasure to introduce to you as a clinician, as a researcher, and as a distinguished teacher Dr. Mark M. Ravitch, Associate Professor of Surgery in Johns Hopkins Medical School, Baltimore, Maryland. Dr. Ravitch."

DR. MARK M. RAVITCH, Baltimore, Md.: I think the only reason I got to speak before the Royal College of Surgeons was because the Wimbledon games were on and what the English call the "Test Match", which is cricket; and Ravitch came in a poor third.

Dr. Ravitch then addressed the Society on the subject of "Total Colectomy and Anal Ileostomy", illustrating his talk with lantern slides, and then showed a moving picture of the operation.

After some announcements by the Chairman, the General Session adjourned.

General Session

Tuesday, October 11, 2:30 P.M.

The Medical Society of Virginia met in general session in the roof-garden assembly room of the Chamberlin Hotel on Tuesday, October 11, at 2:30 p.m. Dr. J. T. T. Hundley, Vice-President, called the meeting to order and presided as chairman.

The paper of Dr. George Cooper, Jr., and Dr. John G. Kroll, of Charlottesville, entitled "The Roentgen Diagnosis

of Primary Lung Cancer" was read by Dr. Cooper and was discussed by Dr. Frank Philip Coleman, of Richmond.

The paper of Dr. Myers H. Hicks, Dr. A. J. Crutchfield, and Dr. J. Edwin Wood, Jr., Charlottesville, entitled "Treatment of Lower Nephron Nephrosis by Intestinal Lavage" was read by Dr. Hicks. The discussion was opened by Dr. Walter B. Martin, Norfolk; and the paper was further discussed by Dr. Wood and in closing by Dr. Hicks.

Dr. A. A. Burke, Norfolk, addressed the Society on the subject of "The Prevention and Treatment of Deafness". Dr. Fred O. Fay, Norfolk, discussed his presentation.

The program of the general session having been concluded, the meeting adjourned.

Symposium
Reading, Hearing and Speech Difficulties
Tuesday, October 11, 4:20 P.M.

Following the adjournment of the general session on Tuesday afternoon, October 11, a Symposium on Reading, Hearing, and Speech Difficulties was given in the Hampton Room of the Chamberlin Hotel, beginning at 4:20 o'clock. Dr. Charles L. Outland, Vice-President, acted as chairman.

The meeting was addressed by Dr. Ullin W. Leavell, Director of the McGuffey Reading Clinic, University of Virginia, and then by Dr. James M. Mullendore, of The Speech Clinic, University of Virginia, who read a paper entitled "The Interrelationships of Medicine and Speech Pathology".

There was no discussion, and the meeting then adjourned.

Medical Section
Wednesday, October 12, 9:30 A.M.

The Medical Section of the Medical Society of Virginia reconvened in the Virginia Room, Hotel Chamberlin, on Wednesday, October 12, 1949, and was called to order at 9:30 o'clock by Dr. J. T. T. Hundley, Vice-President, who presided as chairman.

The first paper on the program was that of Dr. E. Baron, of Kecoughtan, entitled "Lipoid Pneumonia". This was read by Dr. Baron and was discussed by Dr. Thomas N. Hunnicutt, Newport News.

The paper of Dr. William A. Read, Newport News, and Dr. Harry Nushan, Kecoughtan, entitled "Hepatic Amebiasis: Difficulties in Diagnosis" was read by Dr. Read and was discussed by Dr. Charles M. Caravati, Richmond; Dr. Douglas Chapman, Richmond; Dr. John Taylor Ransone, Newport News; and in closing by Dr. Read.

The paper of Drs. Byrd S. Leavell, Donald Shotton, and Charles Crockett, Jr., of Charlottesville, entitled "Pernicious Anemia: Diagnosis and Treatment", was read by Dr. Leavell. This was discussed by Dr. John B. McKee, Winchester, and Dr. George B. Craddock, Lynchburg, and in closing by Dr. Leavell.

The program for the session having been completed, the Medical Section then adjourned.

Surgical Section
Wednesday, October 12, 9:00 A. M.

The Surgical Section of the Medical Society of Virginia opened at 9:00 A.M., October 12, 1949, with Dr. C. L. Outland presiding.

The first paper presented, "End Results In the Treatment of Bladder Tumor", prepared by Dr. Austin I. Dodson and Dr. Charles M. Nelson, of Richmond, was given by Dr. Nelson in the absence of Dr. Dodson. This was discussed by Dr. A. A. Creecy of Newport News.

Dr. Donald S. Daniel of Richmond, presented his subject, "Retropubic Prostatectomy".

"Non-Invasive Carcinoma of the Cervix: An Opportunity to Reduce Cancer Mortality", was the title of the paper presented by Dr. Randolph H. Hoge of Richmond.

General Session
Wednesday, October 12, 10:45 A.M.

The Medical Society of Virginia reconvened in general session in the Virginia Room of the Hotel Chamberlin on Wednesday morning, October 12. The meeting was called to order at 10:45 o'clock by Dr. Charles L. Outland, Vice-President, who acted as chairman.

CHAIRMAN OUTLAND: The last general session of the State Society will please be in order.

The first presentation is on "The Causal and Preventive Aspects of Spontaneous Abortion" by Dr. Arthur T. Hertig, of Boston. I ask Dr. Waverly Payne to introduce our speaker.

DR. PAYNE: Mr. Chairman and members of the Medical Society of Virginia, many of you gentlemen who are members of the Virginia Obstetrical and Gynecological Society remember pleasantly a visit to Boston that we made a few years ago with our Travel Club, at which time we were most courteously entertained by the group of which our next speaker is a member. He is senior obstetrician on the staff of the Boston Lying-In Hospital; he is one of the professors of pathology of Harvard University; he is pathologist to the Boston Lying-In and pathologist to the Free Hospital for Women. His interest in pathology of the pelvis has had a far-reaching influence upon our thinking along the line of those diseases; and certainly no contribution to the literature on any subject relative to the pelvis, and particularly to the endometrium, is complete without reference to some of his many contributions. It gives us of the obstetrical and gynecological group a great deal of pleasure to know that our distinguished President, Dr. Rucker, saw fit to invite this fine gentleman and scholar from Boston to address us at this time. It is a privilege, therefore, for me to present to you Dr. Arthur T. Hertig, of Boston, Massachusetts. Dr. Hertig.

Dr. Hertig then addressed the Society on the subject of "The Causal and Preventive Aspects of Spontaneous Abortion."

Dr. William R. Sandusky, Charlottesville, read his paper entitled "Antibiotics and Chemotherapy in Surgical Disease", which was discussed by Dr. Edmund Horgan, of Winchester.

CHAIRMAN OUTLAND: We now come to the last item on the program, and I am going to ask Dr. Edwin Rucker to join Dr. Horgan in escorting our President to the platform.

(Dr. Caudill, President-Elect, was escorted to the rostrum.)

Mr. President, in behalf of the retiring President I turn over to you what I hope is a better Society than it was a year ago, and I know it will progress under your guidance.

My best wishes, sir.

DR. W. C. CAUDILL, President: Thank you.

Mr. Chairman, members of the Medical Society of Virginia, and guests, I deeply appreciate this very high honor conferred upon me by the Medical Society of Virginia. I am fully conscious of the fact that I am succeeding a most outstanding and distinguished president of this Society. A year ago, upon the occasion of his accession to the presidency and his induction into office, Dr. Rucker outlined a number of worth-while projects as the goal of his administration. Great progress has been made toward the achievement of those goals. Obviously all of them could not be reached within the space of one short year. Undoubtedly the most momentous problem still facing us today is the threat of the proposed system of government-controlled medical care. We believe our best weapon for use in this fight is the early completion of our own system of voluntary prepayment medical care and hospitalization in Blue Cross and Blue Shield and the commercial companies.

Another effective weapon in our hands will be the active participation of every member of this Society in the educational program of the American Medical Association.

During my term of office I should also like to see accomplished the following: (1) Regular and frequent meetings of every local medical society in the State; (2) an active public-relations program in each medical society; (3) every eligible doctor in the State a member of the State Society; (4) a functioning grievance committee in every local society; (5) an enthusiastic annual meeting of the members of each district and council; (6) a woman's auxiliary in every local society; (7) enthusiastic support given to the activities of the Virginia Council on Health and Medical Care; (8) completion of organization of local health councils; (9) a public relations session at the next annual meeting.

To accomplish these aims, to work for the best interest of the Society in every way possible, and to keep our State Society on the high plane in which it has been placed by my able predecessors, I pledge you my time, my hardest work, and my best efforts.

I thank you.

One of the first duties of the incoming president is to name the members on the standing and special committees. I shall read the complete list of the standing committees.

(President Caudill read the said list.)

It would take me quite a long time to read the names of all of the members of the special committees; and in order to save time, and inasmuch as these committees will be published in the December VIRGINIA MEDICAL MONTHLY, I shall read just the names of the committees and the chairmen.

(Dr. Caudill then read the list referred to.)

Is there any new business to come before the Society?

I should also like to announce that the delegates appointed to represent this Society at the next annual meeting of the Medical Society of the State of North Carolina are Dr. C. L. Harrell, Dr. W. L. Powell, and Dr. M. S. Andrews.

I will state that it has been decided to hold the 1950 session of our State Society at Roanoke, Virginia, commencing on October 8th and running the 8th, 9th, 10th, and 11th.

If there is no further business, the Society will stand adjourned.

Whereupon the 1949 annual meeting of the Medical Society of Virginia adjourned *sine die*.

Standing Committees

(Numbers after names indicate length of term of office, as the By-Laws provide that new members of certain Standing Committees shall be named by the incoming President for terms of three years.)

PUBLICATION AND PROGRAM: M. Pierce Rucker, M.D. (2), Richmond, *Chairman;* Ennion S. Williams, M.D. (1), Richmond, *Associate Chairman;* Wyndham B. Blanton, M.D. (3), Richmond; Alex. F. Robertson, Jr., M.D. (1), Staunton.

SCIENTIFIC EXHIBITS AND CLINICS: Charles H. Peterson, M.D. (2), Roanoke, *Chairman;* Vincent W. Archer, M.D. (3), Charlottesville; W. Ambrose McGee, M.D. (1), Richmond.

DEPARTMENT OF CLINICAL AND MEDICAL EDUCATION: M. Pierce Rucker, M.D., Richmond, *Chairman;* George B. Zehmer, Charlottesville, *Executive Secretary;* L. J. Roper, M.D., *State Health Commissioner,* Richmond; Kinloch Nelson, M.D., Richmond; J. R. Beckwith, M.D., Clifton Forge; Mary Elizabeth Johnston, M.D., Tazewell.

LEGISLATION: J. D. Hagood, M.D. (1), Clover, *Chairman;* J. Frank Folk, M.D. (1), Warrenton; Dean B. Cole, M.D. (1), Richmond; Charles H. Henderson, M.D. (3), Norton; J. Edwin Wood, Jr., M.D. (3), Charlottesville; Frank A. Farmer, M.D. (3), Roanoke; Carrington Williams, M.D. (2), Richmond; F. C. Pratt, M.D. (2), Fredericksburg; George W. Schenck, M.D. (2), Norfolk.

MEDICAL SERVICE: John O. Boyd, Jr., M.D. (3), Roanoke, *Chairman;* Russell Buxton, M.D. (3), Newport News; Walter B. Martin, M.D. (3), Norfolk; M. H. Harris, M.D. (2), West Point; John G. Graziani, M.D. (2), Farmville; Snowden C. Hall, Jr., M.D. (2), Dan-

ville; Charles L. Savage, M.D. (1), Waynesboro; H. B. Mulholland, M.D. (1), Charlottesville; James P. Williams, M.D. (1), Richlands.

MEMBERSHIP: A. M. Showalter, M.D. (1), Christiansburg, *Chairman;* J. Bolling Jones, M.D. (2), Petersburg; J. Franklin Waddill, M.D. (3), Norfolk.

ETHICS: James L. Hamner, M.D. (1), Mannboro, *Chairman;* K. D. Graves, M.D. (3), Roanoke; M. H. Harris, M.D. (2), West Point.

JUDICIAL: J. Morrison Hutcheson, M.D. (1), Richmond, *Chairman;* Hugh H. Trout, Jr., M.D. (3), Roanoke; P. St. L. Moncure, M.D. (2), Norfolk.

PUBLIC RELATIONS: J. M. Emmett, M.D., Clifton Forge, *Chairman;* H. B. Mulholland, M.D., Charlottesville; Benjamin W. Rawles, Jr., M.D., Richmond; Andrew F. Giesen, M.D., Radford; George A. Duncan, M.D., Norfolk; John B. Leary, M.D., Arlington.

GRIEVANCE: Alex. F. Robertson, Jr., M.D., Staunton, *Chairman;* W. L. Powell, M.D., Roanoke; J. Morrison Hutcheson, M.D., Richmond; H. B. Mulholland, M.D., Charlottesville; Roshier W. Miller, M.D., Richmond.

Special Committees

MATERNAL HEALTH: Waverly R. Payne, M.D., Newport News, *Chairman;* Richard B. Nicholls, M.D., Norfolk; A. L. Carson, M.D., Richmond; G. N. Carter, M.D., Boydton; A. M. Groseclose, M.D., Roanoke; John M. Nokes, M.D., Charlottesville; C. A. Nunnally, M.D., Fredericksburg; Edwin M. Rucker, M.D., Richmond; W. L. McMann, M.D., Danville; L. L. Shamburger, M.D., Richmond.

CHILD WELFARE: James B. Stone, M.D., Richmond, *Chairman;* Emily Gardner, M.D., Richmond; T. J. Humphries, M.D., Roanoke; W. W. Waddell, Jr., M.D., Charlottesville; F. Read Hopkins, M.D., Lynchburg; C. C. Powel, M.D., Harrisonburg; John O. Rydeen, M.D., Norfolk; C. B. Hughes, M.D., Wytheville.

ADVISORY TO WOMAN'S AUXILIARY: C. E. Holderby, M.D., Hilton Village, *Chairman;* H. Hudnall Ware, M.D., Richmond; Louis P. Ripley, M.D., Roanoke.

WALTER REED COMMISSION: H. A. Tabb, M.D., Gloucester, *Chairman;* Richard B. Bowles, M.D., Mathews; Clarence Porter Jones, Jr., M.D., Newport News.

TO CONFER WITH STATE BOARD OF NURSE EXAMINERS: Frank S. Johns, M.D., Richmond, *Chairman;* A. P. Jones, M.D., Roanoke; C. Bruce Morton, M.D., Charlottesville; John A. Shackelford, M.D., Martinsville; Richard P. Bell, M.D., Staunton; Joseph D. Collins, M.D., Portsmouth; M. H. Harris, M.D., West Point; Russell Buxton, M.D., Newport News.

VENEREAL DISEASE CONTROL: D. C. Smith, M.D., Charlottesville, *Chairman;* W. W. S. Butler, M.D., Roanoke; John L. Jennings, M.D., Danville; R. W. Fowlkes, M.D., Richmond; M. S. Fitchett, M.D., Norfolk; James W. Love, M.D., Alexandria; L. J. Roper, M.D., Richmond.

TUBERCULOSIS: Frank B. Stafford, M.D., Charlottesville, *Chairman;* J. B. Nicholls, M.D., Catawba Sanatorium; Charles W. Scott, M.D., Burkeville; George A. Welchons, M.D., Richmond; John A. Sims, M.D., Alexandria.

MENTAL HYGIENE: J. E. Barrett, M.D., Richmond, *Chairman;* R. Finley Gayle, M.D., Richmond; J. B. Pettis, M.D., Staunton; James P. King, M.D., Radford; David C. Wilson, M.D., Charlottesville.

CANCER: George Cooper, M.D., Charlottesville, *Chairman;* H. R. Pearsall, M.D., Charlottesville, *Executive Secretary;* I. A. Bigger, M.D., Richmond; C. W. Eley, M.D., Norfolk; A. B. Gathright, Jr., M.D., Richmond; E. P. Lehman, M.D., Charlottesville; Mason Romaine, M.D., Petersburg; L. J. Roper, M.D., Richmond; Herbert Wolff, M.D., Alexandria; George Zur Williams, M.D., Richmond; A. P. Jones, M.D., Roanoke; Jos. W. Houck, M.D., Lynchburg.

INDUSTRIAL HEALTH: T. J. Tudor, M.D., Norton, *Chairman;* J. V. Jordan, M.D., Covington; Charles L. Savage, M.D., Waynesboro; James W. Elliott, M.D., Lebanon; W. L. Weaver, M.D., Richmond; L. O. Crumpler, M.D., Danville; Rufus Brittain, M.D., Tazewell.

NUTRITION: William R. Jordan, M.D., Richmond, *Chairman;* McLemore Birdsong, M.D., Charlottesville; A. Brownley Hodges, M.D., Norfolk; Ernest G. Scott, M.D., Lynchburg; William Grossmann, M.D., Petersburg; Charles L. Outland, M.D., Richmond.

REHABILITATION: Roy M. Hoover, M.D., Roanoke, *Chairman;* Paul D. Camp, M.D., Richmond; George A. Duncan, M.D., Norfolk; J. R. Blalock, M.D., Marion; N. F. Rodman, M.D., Norfolk; L. J. Roper, M.D., Richmond; G. B. Setzler, M.D., Pennington Gap; Leroy Smith, M.D., Richmond; Frank B. Stafford, M.D., Charlottesville; W. E. Dickerson, M.D., Danville; G. S. Fitz-Hugh, M.D., Charlottesville; Fletcher J. Wright, M.D., Petersburg.

NATIONAL EMERGENCY MEDICAL SERVICE: John Powell Williams, M.D., Richmond, *Chairman;* Walter P. Adams, M.D., Norfolk; E. C. Drash, M.D., Charlottesville; Guy Richardson, M.D., Bristol; R. P. Bell, Jr., M.D., Staunton; W. H. Chapman, M.D., Suffolk; L. F. Hobbs, M.D., Alexandria; J. M. Hurt, M.D., Blackstone; Frank A. Farmer, M.D., Roanoke; Edgar C. Harper, M.D., Richmond.

CONSERVATION OF HEARING: P. N. Pastore, M.D., Richmond, *Chairman;* Fletcher D. Woodward, M.D., Charlottesville; H. Grant Preston, M.D., Harrisonburg; F. H. McGovern, M.D., Danville; Mortimer H. Williams, M.D., Roanoke; T. M. Winn, M.D., Covington.

HOUSE OF DELEGATES PROCEDURE: H. B. Mulholland, M.D., Charlottesville, *Chairman;* J. M. Hutcheson, M.D., Richmond; Alex. F. Robertson, Jr., M.D., Staunton.

TO CONFER WITH OLD DOMINION MEDICAL SOCIETY: Vincent W. Archer, M.D., Charlottesville, *Chairman;* J. M. Hutcheson, M.D., Richmond; Hugh H. Trout, M.D., Roanoke; Walter B. Martin, M.D., Norfolk; James P. Williams, M.D., Richlands; James L. Hamner, M.D., Mannboro; John D. Leary, M.D., Arlington; J. D. Hagood, M.D., Clover.

CONSERVATION OF SIGHT AND PREVENTION OF BLINDNESS: E. G. Gill, M.D., Roanoke, *Chairman;* A. A. Burke, M.D., Norfolk; W. Wallace Gill, M.D., Richmond.

FOR STUDY OF CEREBRAL PALSY: Walter O. Klingman, M.D., Charlottesville, *Chairman;* James B. Stone, M.D., Richmond; O. A. Engh, M.D., Alexandria; Louise F. Galvin, M.D., Richmond; Roy M. Hoover, M.D., Roanoke.

ON REORGANIZATION: Vincent W. Warcher, M.D., Charlottesville, *Chairman;* Harry J. Warthen, M.D., Richmond; W. A. Porter, M.D., Hillsville; John T. T. Hundley, M.D., Lynchburg.

BLUE CROSS-BLUE SHIELD: W. R. Pretlow, M.D., *Chairman,* Warrenton; H. L. Denoon, M.D., Nassawadox; Waverly R. Payne, M.D., Newport News; E. C. Joyner, M.D., Suffolk; George A. Duncan, M.D., Norfolk; Guy W. Horsley, M.D., Richmond; Thomas G. Hardy, M.D., Farmville; W. C. Brann, M.D., South Boston; John T. T. Hundley, M.D., Lynchburg; David S. Garner, M.D., Roanoke; Harold W. Miller, M.D., Woodstock; J. R. McGriff, M.D., Arlington; J. P. Sutherland, M.D., Harman.

BUSINESS SESSIONS

Council

Due to the illness of the President, Dr. M. Pierce Rucker, the regular meeting of the Council was called to order by the President-Elect, Dr. W. C. Caudill, at the Chamberlin Hotel, Fort Monroe, October 9th, at 5:00 P.M. Those in attendance were Drs. C. L. Outland and W. R. Payne, vice-presidents; Drs. R. B. Bowles, C. L. Harrell, Guy W. Horsley, W. J. Ozlin, W. A. Porter, J. T. T. Hundley, R. P. Bell, Jr., V. W. Archer, and James P. King, councilors; Dr. L. J. Roper, State Health Commissioner; Dr. Ennion S. Williams, associate editor of the VIRGINIA MEDICAL MONTHLY; and Drs. H. B. Mulholland and Walter B. Martin.

The minutes of the Council meetings as published in the January and April issues of the MONTHLY were approved.

Dr. Horsley then presented the budget for the coming year. In the discussion, it was stated that an appropriation for the Department of Clinical and Medical Education had not been overlooked but, as this work was being handled in the two medical schools through the Commonwealth Fund, it was not felt necessary to allow anything at this time. However, as the Fund might be withdrawn at any time, it was the consensus of opinion that an appropriation should be made at a later date if necessary.

The contribution to the Virginia Council on Health and Medical Care had been $500.00 but it was felt there was need for increasing this figure. In the discussion, it was stated that the Council is composed of a number of organizations in which doctors are vitally interested and it is doing excellent work. This organization has recently made a survey of places needing physicians and is trying to place doctors where most needed. They also worked on the Hill-Burton Bill, as well as on other projects. It was felt that the Society should give this organization $2,000.00 a year.

Mrs. C. E. Holderby, president-elect of the Woman's Auxiliary, upon request, explained why the Auxiliary had asked for an appropriation this year. She said they wanted to put on a nurse recruitment program, presenting prizes to the senior class of girls in public schools for an essay on "Why I Would Like to Be a Nurse". They also plan to publish a bulletin or newsletter which would go to all doctors in the Society. This could be financed by advertisements but it was felt it should be on a more dignified plan. The actual cost of publishing and mailing the bulletin and the prizes for the essays would be $408.00, but they would greatly appreciate the $400.00 allowed.

The budgets of the Executive Office and the Public Relations Department were then accepted as follows, omitting salaries to be discussed later.

EXECUTIVE OFFICE	1949-50 BUDGET
Bonuses	$ 600.00
Office Rent	600.00
Telephone and telegrams	225.00
Stationery and office supplies	200.00
Repairs and replacements	200.00
Postage	300.00
Audit Fee	90.00
Social Security Tax	60.00
Councilor's Expense	100.00
Delegates to A.M.A.	1,200.00
Expense of assistant to A.M.A.	350.00
President's Expense	250.00
Scientific Exhibit Committee	1,600.00
Walter Reed Commission	75.00
Cancer Committee	400.00
Maternal Health Committee	30.00
National Emerg. Med. Serv. Committee	150.00
Membership dues—affiliated agents	60.00
Special appropriations by President	500.00
Convention Expenses	700.00
Special Appropriations:	
Virginia Council Health & Medical Care	2,000.00
Conference on Medical Service	150.00
National Society of Medical Research	150.00
Preparation and Distribution of VIRGINIA MEDICAL MONTHLY	14,500.00
Miscellaneous Expenses	75.00
Woman's Auxiliary	400.00
PUBLIC RELATIONS DEPARTMENT	
Traveling expense	2,000.00
Telephone and telegrams	1,400.00
Rent	600.00
Postage	1,000.00
Stationery and office supplies	400.00
Conference expenses	1,000.00
Radio	1,500.00
Press	1,000.00
Printing, literature, bulletins and subscriptions	2,000.00
Office equipment	400.00
Education campaign Exhibits Miscellaneous	1,000.00

Requests from national organizations for contributions were then presented. It was stated that in 1947 the Society gave $150.00 to the National Society of Medical Research. They asked for an appropriation in 1948 but

their letter was delayed in transit so that it arrived after the Council meeting. Dr. Archer spoke of the splendid work they have done, especially in the anti-vivisection campaign and said the American Roentgen Ray Society had doubled their contribution this year. The CARE program for supplying medical books to foreign countries was also presented. Dr. Harrell moved that a committee of three be appointed to study these questions and report back to the winter meeting of the Council. Seconded. Dr. Porter offered an amendment that the committee be appointed to study the feasibility of an appropriation to CARE but that a contribution of $150.00 be made to the National Society of Medical Research. Seconded and carried.

Dr. Hundley felt that the Council is going to have to take some stand on contributions to various organizations and believed they should make gifts to worthwhile groups, preferably in the State, which would help the public standing of the Society. Among the items mentioned for the use of the surplus of the Society were research fellowships at the two medical schools, a circulating library service to members, and post-graduate training courses. Dr. Hundley then moved that the Council refer to the Medical Economics Committee* the study of future activities and projects in which the Society may engage, depending upon their present and anticipated financial resources, a report to be made to the next Council meeting. Seconded and carried.

Dr. Horsley stated that the auditor had suggested that at least $15,000.00 should be invested in Series F Savings Bonds. Dr. Hundley moved that this investment be left to the discretion of the Finance Committee. Seconded and carried.

Dr. Horsley said he and others had felt for sometime that the Society needed a lawyer on a retainer fee. In the past Mr. Duval has been paid on the basis of what he has done and it is rather hard to figure out his fee on this plan. It is also embarrassing for members to call on him for advice when they know he is not on a retainer fee. After discussion, it was suggested that the Legislative Committee might interview Mr. Duval with the idea that he be put on a regular retainer basis with a small amount each year, this to be larger in legislative years, or a larger amount for each year. It was felt it would mean a lot to have someone who had the affairs of the Society at heart who could be called on for advice when necessary. Dr. Harrell moved that this be referred to the Legislative Committee with power to act and the fee to come out of the Legislative Fund. Seconded and carried.

The report of the Committee to Confer with the Old Dominion Medical Society was then read by the secretary. Dr. Harrell asked if there was any way the Constitution could be changed so the Old Dominion Medical Society could be taken in as a component part of the State Society. It was also asked if the Negro physicians could form their own societies in various localities and come in as component societies. It was stated that according to the By-Laws there can be only one component society in a county. Dr. Martin felt that this was entirely up to the local society and they would be very careful who they admitted, thereby creating a stimulus for others to improve their standards of practice. It was moved and carried that this report be referred to the House of Delegates for action.

The matter of requiring serologic tests for all obstetric cases, which had been discussed at the March meeting of the Council, was again brought up and it was moved and carried that the Council approve legislation being enacted to require these tests. Dr. Roper felt this was good public health and, while it had some objections, the good overweighs the bad, and his Department would cooperate in getting it through the legislature.

Dr. Caudill called attention to the By-Law which states that no member may serve on more than one standing committee during the year. He said this worked quite a hardship this year as Dr. Rucker was already editor and chairman of the Publication and Program Committee and would automatically become chairman of the Department of Clinical and Medical Education. He asked for a recommendation from the Council with regard to this. It was felt that Dr. Rucker is so important on the Publication and Program Committee, that a motion was made and carried to change the By-Laws, deleting the last sentence in Article IX, first paragraph, "No member may serve on more than one standing committee in the year". This was referred to the first meeting of the House of Delegates. It was also moved and carried that Dr. Ennion S. Williams be made associate editor for the coming year.

It was moved and carried that the first vice-president, Dr. Outland, read Dr. Rucker's address at the opening session on Monday night.

Dr. Harrell moved that a telegram be sent Dr. Rucker expressing sympathy and sorrow that he is unable to attend the meeting. Seconded and carried.

The Council then went into Executive Session.

House of Delegates

The first meeting of the House of Delegates was called to order by Dr. Caudill, president-elect, at 8:00 P.M., October 9th at the Chamberlin Hotel.

Roll call showed a quorum present.

The minutes as published in the December, 1948, issue of the VIRGINIA MEDICAL MONTHLY were approved.

Dr. Horsley presented the budget as approved by the Council. This was accepted.

Dr. W. A. Porter, in a report from the Council, read the suggested change in Article IX of the By-Laws, that the sentence "No member may serve on more than one standing committee the same year" be deleted. This was accepted and laid on the table for action at the next meeting.

Dr. Caudill stated that delegates had been appointed to affiliated organizations during the year and asked for

*Now Medical Service Committee.

any special reports at this time. Dr. Charles Outland reported that he had met on two occasions with the Advisory Committee to the Practical Nurses Association and it was his belief that this representation should be continued so as to help the practical nurses raise their standards. Dr. Harold Miller stated that he had attended the meeting of the Virginia Pharmaceutical Association and had a most enjoyable time.

The following visiting delegates were then introduced and given the courtesy of the floor:

From the Medical Society of the State of North Carolina—Drs. P. G. Fox, Moir S. Martin, and John A. Payne.

From the Virginia Pharmaceutical Association—Mr. R. R. Rooke and Mr. J. Curtis Nottingham.

Mr. Rooke said that several years ago the Virginia Pharmaceutical Association had been reorganized and Mr. Nottingham employed as full-time secretary. They felt they were now in a position to work hand in hand with the medical profession in their mutual problems. They as pharmacists know a great deal about state medicine and know they would be drawn into any scheme. They are vigorously opposed to any form of compulsory health insurance and feel if there are difficulties in the present system, they should be corrected by private enterprise and not by the government. This country has the best profession in the world today and it should be kept that way. The pharmacists are working with the doctors in the educational campaign against socialized medicine and they expect to continue to do so.

Committee reports as published in the September issue of the VIRGINIA MEDICAL MONTHLY (pages 452-468) were next considered.

EXECUTIVE SECRETARY-TREASURER (page 452)—Accepted.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION (pages 452-3)—Accepted.

PUBLICATION AND PROGRAM (pages 453-4)—Accepted.

SCIENTIFIC EXHIBITS COMMITTEE (page 454)—Accepted.

LEGISLATION (page 454)—Accepted.

MEDICAL ECONOMICS (page 454)—Accepted.

MEMBERSHIP (pages 454-5)—Adopted.

ETHICS (page 455)—Dr. Hamner, chairman, moved that this report be adopted with the exception of the second paragraph. Since the report had been made, it was felt that the work of the Ethics and Grievance Committees would be entirely different. Carried.

JUDICIAL (pages 455-6)—Accepted to be laid on the table for final vote at the second meeting of the House.

PUBLIC RELATIONS AND MEDICAL SERVICE (pages 456-8)—Accepted.

EDUCATIONAL PROGRAM (page 458)—Accepted. Dr. Hundley, chairman, then presented the following supplementary report, which was adopted:

In Virginia we are:

1. Firmly convinced that the threat of compulsory health insurance constitutes a grave danger to our American system of free enterprise and would go a long way toward the nationalization of all resources and services.
2. We believe that other professions and groups are as vitally concerned in the preservation of the American way of life as is the Medical Profession.
3. We are convinced that a program of education is necessary to get the facts before an interested citizenry.

Consequently we have concentrated our efforts on

a. Public Relations meetings
b. The wide distribution of printed material
c. Speakers to professional and lay organizations and groups
d. The wider spread of voluntary insurance
e. Cooperation with other interested and concerned groups.

Dr. Hundley stated the reason for making this statement is that they had not set up quite the detailed plan which other states have. It is felt a detailed organization involving an exhaustive structure slips into too many cogs and would be doomed to failure. The situation in Virginia is different because the doctors are a more homogeneous group and do not have quite the problem as other states. It is their intention to get the program back to the individual doctor and the success is to be measured on how quickly the individual doctor meets his problem. Assistance of other groups has been sought, trying to get them to realize this is not purely a medical problem. Perhaps the plan should be changed but until the Committee feels that a different one is needed they are going to continue. A measure of success is being reached and it can be much better. If the doctor does not read his mail and does not read the VIRGINIA MEDICAL MONTHLY, he cannot expect to know what is being done and how he can receive material.

MENTAL HYGIENE (page 458)—Accepted.

RURAL HEALTH (page 458)—Accepted. Dr. Mulholland, chairman, felt that this committee should be incorporated into the Medical Service Committee. He stated he did not want the members to feel that because they had not had a meeting, the situation with the rural people is all right. It is worse than it has been in the past. The rural people are willing to go along with the doctors if something is done to correct or improve their medical care.

MATERNAL HEALTH (pages 458-9)—Accepted.

CHILD WELFARE (pages 459-61)—Accepted.

CONFER WITH STATE BOARD OF NURSE EXAMINERS (page 461)—Accepted.

VENEREAL DISEASE CONTROL (page 461)—Dr. Smith, chairman, called attention to the recommendation about serologic tests. The report was adopted.

TUBERCULOSIS (pages 461-4)—Accepted.

CANCER (page 464)—This and the following supplementary report, presented by Dr. Cooper, chairman, were accepted:

The Committee held its annual meeting in the Richmond Academy of Medicine on September 30th with the following in attendance: Drs. Eley, Gathright, Lehman, Williams, and Cooper. Dr. Carson was present, representing Dr. Roper and Dr. Romaine.

The interim actions taken by the Committee during the past year were reviewed and confirmed. These are reported in the minutes submitted last August.

The American College of Surgeons' report was re-

viewed. A representative of the College had inspected some of the Virginia Tumor Clinics. The recommendation was that all the clinics inspected be re-approved.

The Cancer Committee decided to relieve the Tumor Clinic Directors of the necessity of mailing in reports on the treatment given their patients. This information is being collected by the Bureau of Cancer Control and the action is taken to avoid duplication.

The Cancer Committee wants reports of mishandled cancer cases published in the VIRGINIA MEDICAL MONTHLY as often as possible. It prefers inserts to publishing the reports in the text of the Journal. Therefore, it asked for a budget of $400.

GEORGE COOPER, JR., *Chairman.*

NUTRITION (page 464)—Accepted.

ADVISORY TO WOMAN'S AUXILIARY (page 465)—Accepted.

The following report from the Woman's Auxiliary was then presented:

As president of the Woman's Auxiliary to the Medical Society of Virginia for the year 1948-1949, I wish to submit the following report:

During the year I have presided at the usual meetings held by the Auxiliary, namely, the post-convention board meeting, the winter board meeting, and it is my intention to preside at the pre-convention board meeting and the twenty-seventh annual meeting.

In December, 1948, with the President-Elect of the Auxiliary I attended a District Public Relations Conference of the Medical Society of Virginia. At this meeting means by which the Auxiliary could be of service to the medical society were discussed. As a result of this meeting, the Presidents of County Auxiliaries, with the officers and Chairmen of Committees of the State Auxiliary were invited to attend a Public Relations meeting in Richmond, January 15, 1949. There were 37 ladies present at this meeting from the Auxiliary. The meeting was greatly enjoyed, and gratitude was expressed by those attending for the invitation, so graciously extended.

I have visited eight of the nine county auxiliaries that comprise the State Auxiliary. At each Auxiliary I spoke on the subject suggested by the president. The figures are as follows:

Richmond, February 18, 1949—The Correlation of the State and County Auxiliary with the National Auxiliary.

Warwick County, March 23, 1949—Legislation Before Congress to Socialize Medicine.

Northampton-Accomac, April 12, 1949—Report of the Chicago Congress.

Arlington-Alexandria, May, 1949—Possibilities in Auxiliary Work.

Northern Neck, May 26, 1949—Social Trends in Our Government and Their Relationship to the Program for Socialized Medicine.

Petersburg, May 31, 1949—The Story Behind the Planned Program for Compulsory Health Insurance.

Norfolk, April, 1949—Participated in a Forum Meeting.

In November, 1948, I attended the Chicago Conference of State Presidents, Presidents-Elect, Officers and Committee Chairmen of the Woman's Auxiliary to the American Medical Association. In June, 1949, I attended the annual meeting of this organization in Atlantic City.

The Auxiliary has added to the Leigh-Hodges-Wright Memorial Fund. This fund is for the purpose of helping a physician or member of a physician's family in a State Tubercular Sanatorium.

We have also contributed to the Jane Todd Crawford Memorial Fund, a project of the Woman's Auxiliary to the Southern Medical Association.

The chief aim and major project of the Woman's Auxiliary to the Medical Society of Virginia this year has been to help educate the public and ourselves in regards to the dangers of Compulsory Health Insurance and thus defeat this proposed legislation. To this end much has been done. Copies of sample resolutions opposing this issue, with a personal letter from the President were sent each Woman's organization in the State. Prior to the meeting of the General Federation of Women's Clubs in Florida the delegates were contacted and given literature regarding this issue. Inasmuch as this procedure was followed by all State Auxiliaries in the United States some pressure was exerted, and at the meeting in Florida resolutions opposing such legislation were adopted by a large majority. This same precedure was followed prior to the national meeting of the Parent-Teacher groups. In each instance Mr. Johnson, Director of Public Relations for the Medical Society, was contacted and told of these meetings and the dates of same. When information concerning plans of any of the many women's organizations in the State were of concern to the profession, because of the relationship to Compulsory Health Insurance, the office of Mr. Johnson was notified. Very recently, efforts have been made to contact affiliated groups of the National Chapter of Jewish Women to inform them on this issue, and direct their thinking in opposition to Compulsory Health Insurance. County Auxiliary Presidents have been contacted and requested to suggest that Women's Clubs in their sections have programs during the coming year on this matter.

Through the Legislative Chairman, Mrs. Powell Williams, a list of Legislative Chairmen of all the Women's State Organizations have been sent to Whitaker and Baxter so that they might be kept informed. Since our Legislative Chairman is a member of the Virginia Women's Council of Legislative Chairmen, she has been able to do a great deal of work in obtaining names for contacts and for sending information.

Through the Auxiliary 129 subscriptions to *Hygeia* were received, and many of the Auxiliaries place this magazine in the schools and libraries in their communities.

Our newest project is that of Nurse Recruitment, and we hope to accomplish much in this field.

There are 512 paid up members in the Auxiliary. Our greatest need is for additional Auxiliaries. It is sincerely hoped that the County Societies will do all possible to encourage the organization of Auxiliaries in their communities. We realize our Auxiliary status and only act with the consent of our Advisory Board, which is annually appointed by the President of the Medical Society of Virginia.

MARGARET S. REYNOLDS
(MRS. RICHARD M. REYNOLDS), *President.*

NATIONAL EMERGENCY MEDICAL SERVICE (pages 465-8)—Accepted.

Colonel H. W. Glattly, from the Army Headquarters Second District, was introduced and given the privilege of the floor. He commended Dr. Williams on his report and stated he just wanted to emphasize some of the points brought out. He said had it not been for the splendid cooperation given the army by civilian doctors in this area, they would have had a breakdown of medical health. He doubted if the civilian doctors realized just how important had been their help in medical service. He emphasized the close relationship of civilian and military medicine and how important it is that this close liaison does exist in helping determine military medical problems. If this relationship had existed between World Wars I and II, they would not have had so many problems. He stated that many of the reserve officers in Virginia have given up their vacations in order to help the

army in some very critical situations. Some of the military hospitals would have had to close if they had not had this cooperation, and he felt the doctors had indeed made the army's problems their problems.

BLUE CROSS-BLUE SHIELD (page 468)—Dr. Pretlow, chairman, stated that the committee had largely functioned as individuals rather than as a whole. A good deal of work has been done in trying to bring about a hroad acceptance of these problems and he believed the situation in Virginia will improve rapidly in the coming year. It is very important for the doctors to get behind these plans and try to help them out. Blue Cross and Blue Shield are not going to meet the problem unless some plan of reciprocity is worked out. When asked the question, he stated that his report did not carry any motion to adopt a national insurance company. The report was accepted.

HOUSE OF DELEGATES PROCEDURE. The following report was presented by Dr. Mulholland, chairman:

For several years, members of the House of Delegates of the Medical Society of Virginia have felt the need of a revision of its methods of procedure. In the press of time during its meeting many important matters receive little or no consideration and delegates lack the opportunity to express themselves freely on various topics presented in the committee reports.

Your committee, therefore, feels that a few reference committees should be established and that the reports presented to the House of Delegates should be referred to one of these committees. This referral should be made at the time of the opening session of the House, preferably on the morning of the first day at 10:00 A.M. At the same time, resolutions could be presented and referred to the respective committees. These committees then would hold hearings during which any person desiring to discuss any question referred to such a committee could appear. After the hearing, the committee would then present its report to the House of Delegates assembled on the afternoon of the second day.

It is our opinion that the House should elect a Speaker and a Vice-Speaker at its first session each year, to preside over the next annual session.

The members of the reference committees should be appointed by the President and Speaker of the House before each annual session, and should consist of one member from each Congressional District. A chairman of each committee should be appointed by the Speaker and the President. Committees suggested:

1. Public Relations and Legislation.
2. Medical Service.
3. Professional Relations.
4. Scientific Reports.
5. Public Health and Education.
6. Miscellaneous Business.

H. B. MULHOLLAND, *Chairman*
J. M. HUTCHESON
A. F. ROBERTSON, JR.

Dr. Martin moved that this be adopted and referred to the Judicial Committee for any changes necessary in the Constitution and By-Laws. Dr. Ben Rawles asked why should a speaker preside instead of the president. It was stated this is merely in line with other organizations and it was felt the present set-up tied the president too closely to the House of Delegates and he could not attend to other duties. The report was then adopted.

Dr. Martin moved that the time of the meeting of the Society be changed so as to begin on Thursday morning and conclude on Saturday night, with the first meeting of the House on Thursday morning. Seconded. Dr. Hutcheson stated that a number of days in the week for meetings have been tried during the past and no day has ever been found suitable for the last day of the meeting. He did not think any more would stay over for Saturday night than they would for Wednesday morning. One member, who said he has been attending for forty years, felt the House had more members present at this meeting because it is Sunday night and not in the middle of the week. Dr. Haddock felt this was a very important motion and offered a substitute that it be referred to a special committee for study and to report back to the next meeting of the House. Seconded and carried.

INDUSTRIAL HEALTH—The following report was presented and accepted.

No meeting of the Industrial Health Committee was held during the year 1948-49. The Chairman attended in January the Congress of Industrial Hygiene held in Chicago. In this meeting, the American Medical Association stressed the importance of the practice of industrial medicine in the community and urged the encouragement of the establishment of more full time and part time medical services in industry, pointing out that such services held a very important place in improving and maintaining the health of the industrial worker.

The Chairman of the committee would like to recommend that the state association set aside a small sum of money for the purchase of a copy sheet of Chemical Safety Data sheets, prepared by the Manufacturing Chemists Association, Incorporated, 246 Woodward Building, Washington, D. C., to be delivered to the Library of the Medical College of Virginia and to the Library of the University of Virginia for the use of physicians who could obtain specialized information on Toxic Chemicals otherwise not available.

W. L. WEAVER, *Chairman.*

CONSERVATION OF HEARING—The report was presented as follows and accepted.

A meeting of the committee was called on May 13, 1949, following the Executive Council session of the Virginia Society of Ophthalmology and Otolaryngology which held its annual scientific meeting in Richmond May 14. The chairman has also held meetings with Mrs. W. L. Gilliam, Jr., of the projects committee of the Junior League, Mr. Boyce Williams of the Federal Security Agency, representatives of the State Rehabilitation Agency and with a group called together by Dr. W. T. Sanger of the Medical College of Virginia in connection with the University Center Study.

As previously stated (annual report October, 1948) the problem of conservation of hearing is one of tremendous magnitude and is truly complex. A study of Conservation Programs in other states shows many variations in the approach and management of the problem. Fifteen states have some type of legislation requiring that hearing acuity tests be given to children enrolled in schools. In Ohio, the State Director of Health, Division of Child Hygiene, is responsible for approving audiometers and providing record forms for a state-wide hearing program. In Pennsylvania the program is administered through the State Department of Public Instruction. In many states volunteer agencies carry the burden of conservation of hearing responsibilities.

In its recent nation-wide study, the Academy of Pedi-

atrics pointed out that thirty-seven (37) percent of the nation's children are in rural areas (Proceedings 29th Annual Meeting of American Hearing Society). Any comprehensive program in the conservation of hearing would of necessity include these children. In Minnesota and North Dakota mobile Hearing and Speech Clinics have been found to be a partial solution.

Preventive and corrective therapy for ear difficulties in children has lagged for many years. Today, scientists, educators and physicians are showing increased knowledge in this field. This combined with the good results noted in the rehabilitation program of deafened victims of World War II has led to a greater lay interest and understanding of the problem.

An ideal conservation of hearing program would include: (1) Discovering the individual, (2) initiating a corrective program, and (3) adjusting the individual and the loss.

The committee recognizes the obstacles impeding such a program. It is hoped that through education and legislation a more comprehensive approach of the first phase may be attained. The second and third phases of the program offer more difficulty. Lack of service facilities, well trained personnel and scarcity of centers where instruction is offered to the hard of hearing are definite barriers to a complete program. Some progress has been made in this latter phase. The University of Virginia has a speech correction clinic at Charlottesville and its director supervised the summer camp (1949) sponsored by Virginia Society of Crippled Children at the Woodrow Wilson Rehabilitation Center at Fishersville. The Medical College of Virginia is enlarging its audiology center and the Junior League has chosen as a project, a speech correction clinic which will open in Richmond soon.

P. N. PASTORE, *Chairman*
FLETCHER D. WOODWARD
H. GRANT PRESTON
F. H. MCGOVERN
MORTIMER H. WILLIAMS
T. M. WINN

CONSERVATION OF SIGHT—Dr. A. A. Burke, a member of the committee, presented the following report, which was accepted.

Recommendations are as follows:

1. The Medical Society of Virginia should make every effort to educate the public about the need for proper eye care and promote available facilities all over the state for vision tests of school children and an industrial eye program and clinic service for the care of indigent when indicated.

2. We should make every effort to promote professional education for general practitioners and those specializing in eye work, in order to alert them to eye problems and fields of blindness such as glaucoma. For example, we would suggest that our committee be empowered to write to the secretary of each county medical society urging that sometime during the year they have a sight conservation program at which a qualified ophthalmologist would be invited to discuss conditions of the glaucoma, need for early treatment and prevention of eye injuries. Exhibits should be put on at state medical society meetings illustrating the above mentioned conditions.

3. Ophthalmologists should cooperate with the Virginia Commission of the Blind anyway possible; especially in referring the children with impaired vision to sight-saving classes.

4. Ophthalmologists and general practitioners should realize that sight-saving classes are not segregated but like public schools, children are members of the regular grades. They should not look upon this as a stigma but as an opportunity to improve their classroom work and their school work in general.

5. All ophthalmologists in every city should avail themselves of the opportunity to visit sight-saving classes in their local public schools so they may be better acquainted with the work that sight-saving classes are doing for children with impaired vision.

6. Ophthalmologists should emphasize in examining their patients that they are not selling glasses. That they are consulting them for a medical examination. There is no single examination that can be made upon the human body that reveals as much information as the examination of the eye including complete fundus examination. A qualified ophthalmologist should be an internist, as well as an ophthalmologist. He should always advise his patients that he is not selling glasses, but that he is giving him the competent, careful medical examination.

E. G. GILL, *Chairman.*

OLD DOMINION MEDICAL SOCIETY—Dr. Hutcheson read his report as follows, and Dr. Martin moved its adoption:

As directed, your Committee has conferred with the Old Dominion Medical Society by correspondence, by personal interviews with officers and members, and at a conference with a special committee of six from the Society. In addition, a formal petition has been received asking that the Old Dominion Medical Society be made a component of the Medical Society of Virginia. From this investigation and other circumstances pertinent to improving the status of colored physicians, the following premises emerge:

1. There are approximately 150 licensed Negro physicians practicing in Virginia. Many of these are earnest, progressive doctors, eager to expand their knowledge so as to render the best possible service to their patients. By reason of lack of membership in local and state societies, they are not able to avail themselves of the opportunities for post-graduate study open to other physicians of the state and are deprived of membership in the American Medical Association and other national societies.

2. Membership in the American Medical Association requires membership in one's state society, and membership in the state society requires membership in one's local society. It is apparent, therefore, that if the status of colored physicians is to advance, particularly as regards membership in the American Medical Association, it is necessary that they become members of a component of the Medical Society of Virginia.

3. The Constitution of the Medical Society of Virginia (Article IV) limits active membership to white physicians.

Your Committee is impressed with the sincerity of the officers and members of the Old Dominion Medical Society composing their committee whose signed statement reads as follows:

> "The Old Dominion Medical Society, in applying to the Medical Society of Virginia for its support and influence in obtaining membership for qualified Negro physicians in the component local societies of the Medical Society of Virginia, declares that their sole objectives are to gain access to additional sources of scientific knowledge and to become eligible for membership in the American Medical Association."

Your Committee believes that all reasonable efforts should be made to encourage and assist these men in their ambition for professional advancement and improvement, and to this end makes the following recommendations:

1. The Medical Society of Virginia recommends to its component societies that they give careful consideration to the matter of accepting into their membership Negro physicians who are eligible, according to the standard of character and professional ability, and such other re-

quirements as may seem desirable to the local county society.

2. That the word "white" be deleted from Article IV of the Constitution of the Medical Society of Virginia.

J. MORRISON HUTCHESON, *Chairman*
WALTER B. MARTIN
HUGH H. TROUT

The following substitute motion was then offered by Dr. Walter Adams, who moved its adoption. Seconded.

WHEREAS the white physicians of Virginia are most desirous of helping the Negro physicians improve their knowledge and professional standing, with the final aim towards American Medical Association membership on an equal professional basis, and

WHEREAS Negro physicians attending white or Negro patients in the white hospitals of the State would ultimately come into conflict with Segregation Laws of the State of Virginia, as well as the desires of a majority of the State population, and

WHEREAS, at present, the various local component Societies of the Old Dominion Medical Society (State, Negro) are time honored and well balanced organizations and

WHEREAS all qualified members of the Medical Society of Virginia (State, white) will always give freely of time and effort towards lecturing and teaching in the Old Dominion Medical Society, its local constituents, and the Negro hospitals,

THEREFORE BE IT RESOLVED: That the Medical Society of Virginia hereby endorses a motion in the House of Delegates of the American Medical Association, to change the Constitution of the American Medical Association to allow those States desiring it, to operate with two approved local constituent Societies instead of one, as prerequisite for Membership and Fellowship in the American Medical Association.

Dr. H. J. Langston moved to table the motions until the next meeting of the House of Delegates, in order that the members might have more opportunity to discuss and study this question. Seconded and carried.

The House was then given a short recess for the naming of the Nominating Committee, which resulted as follows:

1st District—Dr. A. A. Creecy
2nd District—Dr. W. B. Martin
3rd District—Dr. H. J. Warthen
4th District—Dr. C. E. Martin
5th District—Dr. B. A. Hopkins
6th District—Dr. Frank Farmer
7th District—Dr. Guy Fisher
8th District—Dr. W. R. Pretlow
9th District—Dr. J. C. Moore

Councilors for the odd numbered districts were also named at this time, and the present members were re-elected:

1st District—Dr. R. B. Bowles, Mathews.
3rd District—Dr. Guy W. Horsley, Richmond
5th District—Dr. W. A. Porter, Hillsville
7th District—Dr. R. P. Bell, Jr., Staunton
9th District—Dr. James P. King, Radford

Dr. J. W. Love told of the problem now confronting the physicians on the borderline of Virginia and the District of Columbia. In the past the Virginia doctors have been able to get a borderline license to practice in the District of Columbia for $1.00 a year but this has now been rescinded and they will have to take out a full time license. The Alexandria Society would like to ask the Judicial Committee to work with committees in the District to draw up appropriate legislation to present to the next legislature with regard to this matter. Dr. Horsley, president of the State Board of Medical Examiners, stated they could do nothing about this on account of the present laws. It has been investigated by the Commonwealth Attorney. He said there had never been any problem of getting a permanent license for the District doctors to practice in Virginia and this did not have to be renewed annually. He realized the advantage to Virginia doctors to be able to practice in the District but did not think a special ruling could be made in their case without including those doctors in other borderline states. Dr. H. H. Ware moved that the House of Delegates go on record as being opposed to any change in the laws of the State Board of Medical Examiners and that they remain the same in requiring borderline licenses. Seconded. Dr. Zylman stated that most of the younger men had reciprocity with the District but the older men do not and they are the ones who will suffer. He felt the situation in their section was different from the other borderline states as much of the space in the District hospitals is used by Virginia doctors. Dr. H. W. Miller amended the motion that this question be referred to the attorney for the Society, the Legislative Committee, and the State Board of Medical Examiners for study. Seconded. Dr. Horsley said this had been under consideration for the past eighteen months but nothing could be done unless the law is changed. Dr. Sims stated that the representative in Arlington is going to bring this up at the next legislature. Dr. Miller's motion was carried.

Dr. George Duncan presented the following motion, which was adopted:

Be it resolved that a Committee be appointed to study the need for physical restoration and special education of children afflicted with cerebral palsy, in the State of Virginia.

At the present time this is a much neglected group of children who are commonly referred to as Spastics. It may be necessary to establish an institution for the care of these children, although it would be much better to take care of them in their own community.

For the study of this problem, I would suggest that the President appoint a Committee to consist of at least one Pediatrician, one Neurologist and one Orthopedic Surgeon.

I would further urge the immediate appointment of this Committee, so that they can have this study completed by the first of January, 1950. My reason for such haste is that any legislation that might be needed to carry out their program could be presented to our next General Assembly.

This Committee should present their recommendations first to the Council for their approval and it, in turn, should hand it over to our Legislative Committee for enactment by the Virginia Assembly.

The House then adjourned to meet again on the next day at 2:30 P.M.

House of Delegates
Second Meeting

The second meeting of the House of Delegates was called to order by Dr. Caudill on October 10th, at 2:00 P.M.

Roll call showed a quorum present, and the first order of business was the consideration of changes in the Constitution and By-Laws, which were adopted as follows:

CONSTITUTION

1. That Article VIII be amended so that the standing committee numbered (5) shall read "Medical Service" instead of "Medical Economics". Also omit "and" before (8) and add "(9) Public Relations, and (10) Grievance."

BY-LAWS

Article I, Section 1—Add the word "life" after "active".

Section 2—Change to read "The privilege of voting, holding office, and serving on standing committees is limited to active and life membership. In all other respects the status of active, life and associate members is the same."

Article VIII, Section 7—Add to end of paragraph "Members of the district council, representing local medical societies, shall be elected by the membership of the respective societies prior to September 30, and members for counties in which there is no society shall be appointed by the Councilor for their Congressional District, prior to that date. The term of office for members of the District Council shall be one year, ending September 30. They shall be eligible to succeed themselves and their duties shall be to work with and under the direction of the Councilor for the District."

Article IX—Change number 5 to "Medical Service" and add "9. Public Relations" and "10. Grievance".

The first paragraph shall read "Each of these Committees, with the exception of the Department of Clinical and Medical Education, the Committees on Medical Service, Legislation, Public Relations and Grievance, shall consist of three members, whose term of office shall be for three years. The members having first been appointed for one, two and three years, the incoming President shall appoint to fill vacancies created by expiration of term of office, and shall name the chairman of each committee." The last sentence is to be omitted.

The third paragraph shall read "The Committee on Medical Service shall consist of nine members, one from each Congressional District, whose term of office shall be for three years, three to be appointed each year by the incoming President, and the Committee on Legislation of nine members, three to be appointed each year by the incoming President. He shall also name the chairman."

Section 5 shall be headed "Medical Service" and their duties to "Section 5—The Committee on Medical Service shall have supervision of all matters relating to prepaid hospital and medical care and rural health."

Add, following Section 8—"Public Relations"—"Section 9—The Committee on Public Relations shall supervise all the Society's undertakings in the field of Public Relations." Also "Grievance"—"Section 10—The Committee on Grievance shall review problems or misunderstandings arising between doctors and patients. The committee shall be composed of five active past presidents of the Medical Society of Virginia, the chairman to be appointed from among this number by the president of the Medical Society of Virginia. Any three members of the committee may be designated by the chairman to act as the reviewing panel to hear a particular case.

"Charges shall be submitted to the chairman of the Grievance Committee in writing. The committee shall have jurisdiction over those cases which are appealed from the decisions of the Grievance Committees of the County or Component societies, and in cases of alleged grievances originating in areas in which there is no functioning county society, or in instances where the county Grievance Committee has not been appointed or does not function.

"The chairman shall call a meeting of the Grievance Committee at his discretion or upon written request of any three members of the committee. Three members shall constitute a quorum for the transaction of business or the hearing of cases. The time and place of the meeting shall be designated by the chairman. Hearings shall be conducted in private with both the complainant and the defendant present, and both shall have the privilege of counsel if either or both so elect. Previous written notice. mailed by registered, return receipt letter, shall be sent both parties at least fifteen days in advance of the meeting date, designating the time and place of the meeting. A panel committee of at least three members of the Grievance Committee shall be required for hearings. The complainant, the defendant, and the chairman of the Grievance Committee shall have the right to summon witnesses. If both the claimant and the defendant so elect in writing, the hearing may be based entirely on the written allegation of fault, and the written defense.

"Decisions of the Grievance Committee shall be by two-thirds vote. The decision shall determine the guilt or innocence of the accused and, if guilty, shall reprimand the offender. If indicated by the seriousness of the situation or practices involved, the case shall be referred to the Ethics Committee for appropriate action.

"The Grievance Committee shall have authority to evolve its own rules of procedure. Expenses of the Grievance Committee incurred in the performance of the duties herein outlined shall be paid out of the general funds of the Medical Society of Virginia. Expense accounts shall be submitted by the chairman of the committee to the treasurer of the Medical Society of Virginia."

Dr. Hamner gave the following report from the special committee to consider the time of the annual meetings:

The Committee on advisability of change of time for the meeting met at 10:30 A.M., and makes the following ing recommendation: That the Society continue to hold its meeting as at present.

CHARLES OUTLAND, *Chairman*
J. W. LOVE
JAMES L. HAMNER

This was adopted.

The report of the Committee to Confer with the Old Dominion Medical Society was then called for and Dr. Hutcheson read his report and moved its adoption. Seconded. Dr. Adams then offered his amendment which was also seconded. (Both presented at the first meeting of the House.) It was stated that this resolution was not an amendment and it was ruled out of order. Dr. Martin felt this was a matter which should be considered very carefully and the American Medical Association has nothing to do with it. The report is of a committee appointed by the president of the Medical Society of Virginia. He felt it is to the interest of the Society to give these men the opportunity of improving themselves and the health of their people. The report only recommends to the local societies that they consider this question. It is merely a recommendation and would have to be worked out at a future meeting as it calls for a change in the

Constitution. Vote being taken, the report by Dr. Hutcheson's committee was not adopted.

The following names were presented for the General Practitioner of the Year, to be submitted to the American Medical Association for its 1949 award:

Dr. H. A. Latane, Alexandria, presented by Dr. J. A. Sims.

Dr. H. W. Decker, Richmond, presented by Dr. E. E. Haddock.

Dr. W. C. Welburn, Arlington, presented by Dr. J. B. Leary.

The history and accomplishments of these men were given and by vote, Dr. Decker was named as the member to be recommended to the American Medical Association.

Dr. J. B. Leary then offered the following vote of thanks:

Be it hereby moved that the House of Delegates of the Medical Society of Virginia, in regular session assembled on the tenth of October, 1949, votes its hearty appreciation to the local committee on arrangements, the Warwick County and Elizabeth City Medical Societies, the Richmond Hotels, Incorporated, to the local management of the Chamberlin Hotel, and to the local army personnel for the efficient arrangements and the pleasing hospitality which have so greatly contributed to the success and enjoyment of the 1949 annual meeting.

This was unanimously adopted.

Dr. Harrell moved that a telegram be sent Dr. Rucker expressing the regret of the House at his illness and inability to attend the meeting.

Dr. J. P. King presented the following report from an executive session of the Council:

At the last meeting of the Council a committee was appointed to interview Miss Agnes V. Edwards in regard to partial or full-time retirement. The chairman of this committee has interviewed Miss Edwards on two separate occasions, once before her recent sickness and again after this sickness.

It is felt by the committee that the arduous and untiring work which Miss Edwards has given both to the VIRGINIA MEDICAL MONTHLY and the Medical Society of Virginia is in part responsible for the recent illness she suffered the early part of this year, and that to lessen her burden she should be allowed the privilege of retiring. We realize this will be a great loss to the medical profession. Miss Edwards' family has been intimately connected with the Medical Society of Virginia since the VIRGINIA MEDICAL MONTHLY was first published in 1874 by her father, the late Dr. Landon B. Edwards, and for the past twenty-five years Miss Edwards herself has been Executive Secretary of the Medical Society of Virginia.

It will be difficult to visualize the Medical Society of Virginia without Miss Edwards, but we feel that in justice to her health her load should be made lighter and that she should no longer be burdened with the routine affairs of the Society.

It is recommended, therefore, that she be allowed full-time retirement with fifty per cent of her present salary or that she be continued at a larger percentage of her salary and retain only those duties which have to do with the publication of the VIRGINIA MEDICAL MONTHLY.

Committee:

VINCENT W. ARCHER
C. LYDON HARRELL
GUY W. HORSLEY, *Chairman*

Dr. Harrell moved that this be accepted with regret. Seconded and carried.

Other recommendations from the Council presented by Dr. King are:

A motion was made and seconded that this report be accepted and that Miss Edwards be retired; that her retention to work with the VIRGINIA MEDICAL MONTHLY and the salary for her services be left with the decision of the special committee, composed of Drs. Horsley, Harrell, Archer and Ennion Williams, with authority to act. Motion carried.

Dr. Hundley moved and Dr. Harrell seconded that a special committee be appointed by the President to effect the necessary reorganization in the executive office personnel and that the committee also be given authority to set salaries of the personnel. Motion carried.

Dr. Horsley moved and Dr. Hundley seconded that the salary budget be continued as at present until such time as the reorganization committee shall be formed and make its report, and that any salary adjustments be retroactive to October 1, 1949. Motion carried.

The report of the Nominating Committee was then given and accepted as follows:

President-Elect—Dr. C. L. Harrell, Norfolk.
Vice-Presidents—Dr. W. R. Payne, Newport News.
Dr. J. P. Williams, Richlands.
Dr. J. W. Love, Alexandria.

Executive Secretary-Treasurer—Miss Agnes V. Edwards, Richmond (until her successor is appointed).

Dr. H. B. Mulholland was re-elected as a delegate to the American Medical Association, and the appointment by the president of Dr. J. M. Emmett as the third delegate was confirmed. Dr. Hutcheson holds over for another year. Dr. J. T. T. Hundley was elected as alternate, and the appointment of Dr. M. H. Harris as Dr. Emmett's alternate was also confirmed. Dr. Carrington Williams holds over as Dr. Hutcheson's alternate for another year.

An invitation was extended from the Roanoke Academy of Medicine to hold the 1950 meeting in Roanoke and this was unanimously accepted.

The following were named to be presented the Governor from which to make a selection for the vacancy in the sixth district on the State Board of Medical Examiners:

Dr. K. D. Graves, Roanoke.
Dr. E. G. Scott, Lynchburg.
Dr. John Giesen, Radford.

Dr. Walter P. Adams, Norfolk, was named as the Councilor for the Second District in place of Dr. Harrell, new president-elect.

Dr. J. P. King presented the following motion, which was carried:

I move that the President be empowered to appoint for his term of office a parliamentarian who shall serve in the House of Delegates and elsewhere in this Society as his services may be needed.

Adjournment followed.

AGNES V. EDWARDS, *Secretary.*

Approved:
W. C. CAUDILL, *President.*
November 7, 1949.

We append the report of the REHABILITATION COMMITTEE which was received by the President following the meeting.

The Committee on Rehabilitation has held two meetings, one on March 6, 1949, and the other on September 11, 1949. Both were luncheon meetings and were held in the Hotel John Marshall, Richmond, Virginia.

At the first meeting of the year the Committee was organized and a program of activities was adopted.

The members of the Committee have served as consultants to the Vocational Rehabilitation Service of the State Board of Education. At its March meeting the Committee devoted a large portion of its time to the consideration of a revised Medical Fee Schedule which was later officially adopted by the Rehabilitation Service. These fees have been established to cover costs of medical examinations and surgical treatments provided medically indigent persons who may need physical restoration services to enable them to secure vocational adjustment.

The Committee has arranged speakers for meetings of local societies and has assisted in the preparation of publications on the subject of rehabilitation of the handicapped. In addition it has provided an exhibit for the Scientific Section of the Annual Meeting.

The Vocational Rehabilitation Service has used the Committee extensively in securing medical advice in the development of rehabilitation services provided at the Woodrow Wilson Rehabilitation Center, Fishersville, Virginia. This facility has made rehabilitation services available to many severely disabled individuals who otherwise would be denied an opportunity to become vocationally and economically independent.

ROY M. HOOVER, *Chairman*
J. R. BLALOCK
PAUL D. CAMP
W. E. DICKERSON
GEORGE A. DUNCAN
G. S. FITZ-HUGH
N. F. RODMAN
L. J. ROPER
G. B. SETZLER
LEROY SMITH
FRANK B. STAFFORD
F. J. WRIGHT

Auditor's Report

October 1, 1948—September 30, 1949

THE OFFICERS AND COUNCILORS
MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA
GENTLEMEN:

We have made an examination of the books of the MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia, for the fiscal year ended September 30, 1949, and have prepared therefrom the three accompanying exhibits. The scope of the examination is explained in the following comments.

The assets and liabilities of the Society at September 30, 1949 are stated in the Balance Sheet, Exhibit "A", and the income and expenses for the fiscal year ended at that date, on the cash receipts and disbursements basis, are shown in Exhibit "B".

Yours very truly,

MITCHELL, WIGGINS & SMITH,
By R. E. WIGGINS,
Certified Puhlic Accountant.

Financial Condition

The financial condition of the Society at September 30, 1949, is shown in the Balance Sheet, Exhibit "A", a summary of which is given in comparison with that at September 30, 1948, as follows:

ASSETS	9-30-49	9-30-48
Cash	$44,256.06	$32,196.48
Accounts Receivable	2,104.35	1,937.48
Investments—U. S. Bonds	48,490.44	47,692.44
TOTAL	$94,850.85	$81,826.40
LIABILITIES AND SURPLUS		
Liabilities:		
Accounts Payable	$ 1,611.26	$ 1,378.39
Surplus:		
General Fund	82,826.62	69,892.13
Special Legislative Fund	10,412.97	10,555.88
TOTAL	$94,850.85	$81,826.40

Operations

The income and expenses of the General Fund for the fiscal year ended September 30, 1949, are shown in Exhibit "B", prepared on the cash receipts and disbursements basis. A summary of income and expenses in comparison with those of the preceding year are presented as follows:

	FISCAL YEAR ENDED	
INCOME	9-30-49	9-30-48
Membership Dues	$41,143.81	$41,892.87
Medical Monthly Publication	15,508.40	15,500.82
Other Income	3,325.56	430.81
TOTAL	$59,977.77	$57,824.50

	FISCAL YEAR ENDED	
EXPENSES	9-30-49	9-30-48
Executive Office	$25,935.62	$25,325.17
Public Relations Department	21,664.16	17,775.72
TOTAL	$47,599.78	$43,100.89
SURPLUS INCOME FOR THE YEAR	$12,377.99	$14,723.61

The receipts and disbursements of the Legislative Committee Special Fund are stated in Exhibit "C".

Scope of Examination

All recorded receipts were accounted for by deposits in the banks, and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1949, were confirmed hy statements on file from depositories as follows:

GENERAL FUND

First and Merchants National Bank—Checking Account	$30,512.46
First and Merchants National Bank—Savings Account	5,642.01
The Bank of Virginia—Savings Account	7,077.26

Southern Bank and Trust Company—Savings Account	965.86
TOTAL	$44,197.59

LEGISLATIVE COMMITTEE—SPECIAL FUND

First and Merchants National Bank—Savings Account	$ 58.47

Investments, consisting of United States Savings Bonds and United States Treasury Bonds, were verified by inspection of the securities on hand. The Savings Bonds are shown in the Balance Sheet at their current redemption value and the Treasury Bonds purchased in March, 1948, are shown at cost.

Insurance in force at September 30, 1949, determined from policies on file, was as listed below:

Office Furniture and Fixtures	$1,000.00
Walter Reed House, Belroi, Virginia	2,000.00
Stock of Books:	
Fire, Lightning, Windstorm	1,000.00
Sprinkler Leakage	1,000.00
Fidelity Bond, Secretary-Treasurer	2,500.00

Balance Sheet—September 30, 1949
Exhibit "A"

ASSETS

CASH		
General Fund	$44,197.59	
Special Fund—Legislative Committee	58.47	$44,256.06
DUE FROM MEMBERS (Estimated Collectible Value)		
1949 Dues—50 @ $25.00		1,250.00
ACCOUNTS RECEIVABLE		
Virginia Medical Monthly for Advertising		854.35
INVESTMENTS:		
United States Savings Bonds:		
General Fund	$22,887.50	
Special Fund—Legislative Committee	10,354.50	
United States Treasury Bonds:		
General Fund—Cost	15,248.44	48,490.44
		$94,850.85

LIABILITIES AND SURPLUS

LIABILITIES		
Accounts Payable:		
Preparation of Medical Journal—September, 1949 Issue	$ 1,427.11	
Public Relations—Printing	112.15	
Social Security Tax	72.00	$ 1,611.26
SURPLUS		
General Fund	$82,826.62	
Special Fund—Legislative Committee	10,412.97	$93,239.59
		$94,850.85

Statement of Income and Expense
For the Fiscal Year Ended September 30, 1949
Exhibit "B"

GROSS INCOME	ACTUAL	BUDGET
Membership Dues	$41,143.81	
Royalties on History of Medicine in Virginia	89.22	
Commercial Exhibits	2,744.47	
Interest on Savings Accounts and Securities	491.87	
Virginia Medical Monthly:		
Advertising	15,108.89	
Subscriptions from Non-members	399.51	
TOTAL GROSS INCOME		$59,977.77
EXPENSES		
Executive Office:		
Salaries	$ 7,600.00	$ 7,600.00
Bonuses for Year Ended September 30, 1948	600.00	600.00
Office Rent	600.00	600.00
Telephone and Telegrams	197.96	225.00
Stationery and Office Supplies	195.60	175.00
Repairs and Replacements	179.38	275.00
Postage	290.77	300.00
Audit Fee	90.00	90.00
Social Security Tax	57.00	60.00
Council and Officers Expenses	137.99	350.00
Delegates to A.M.A. Convention	526.68	600.00
President's Expense	227.55	250.00
Scientific Exhibits Committee	1,058.14	1,600.00
Walter Reed Commission	23.22	75.00
Cancer Committee	17.50	250.00
Maternal Health Committee	22.27	100.00
National Emergency Medical Service Committee	111.68	150.00
Membership Dues—Affiliated Agencies	60.00	35.00
Special Appropriations by President		500.00
Convention Expenses		700.00
Department Clinical and Medical Education		1,200.00
Special Appropriations:		
Virginia Council Health and Medical Care	500.00	500.00
Conference on Medical Service	337.53	300.00
Preparation and Distribution of Medical Journal	13,041.66	14,000.00
Miscellaneous Expenses	60.69	75.00
TOTAL—EXECUTIVE OFFICE	$25,935.62	$30,610.00
	ACTUAL	BUDGET
Public Relations Department:		
Salary—Director	$ 8,500.00	$8,500.00*
Salaries—Personnel	3,466.66	4,200.00*

Traveling Expense	1,515.24	2,000.00
Telephone and Telegrams	1,028.46	1,000.00
Rent	600.00	600.00
Postage	844.80	1,000.00
Stationery and Office Supplies	699.66	500.00
Conference Expenses	721.07	1,000.00
Radio Programs	822.40	3,500.00
Press—Advice, Space, Etc.	296.00	4,000.00
Printing, Literature, Bulletins and Subscriptions	2,043.07	3,000.00
Office Equipment	2.50	500.00
Educational Campaign	461.23	
Exhibits	492.00	1,000.00
Miscellaneous	114.28	
Social Security Tax	56.79	
TOTAL PUBLIC RELATIONS DEPARTMENT	$21,664.16	$30,800.00
TOTAL EXPENSES	$47,599.78	$61,410.00
SURPLUS INCOME FOR THE YEAR	$12,377.99	

*Budget increased by Council March 4, 1949, $5,400.00 per year, effective April 1, 1949.

Legislative Committee Special Fund Receipts and Disbursements

For the Fiscal Year Ended September 30, 1949

Exhibit "C"

BALANCE—October 1, 1948	$376.88
RECEIPTS	
Interest on Savings Account	11.59
TOTAL AVAILABLE	$388.47
DISBURSEMENTS	
Legal Service	330.00
BALANCE—September 30, 1949	$ 58.47
FUND ASSETS—September 30, 1949:	
Cash in Bank	$ 58.47
U. S. Government Bonds	10,354.50
TOTAL	$10,412.97

Bonds Owned by Medical Society of Virginia
September 30, 1949

GENERAL FUND

TYPE OF BOND	SERIES	NO. BONDS	DATED	DUE	VALUE AT MATURITY	COST	VALUE AT 9-30-48	VALUE AT 9-30-49
U. S. Savings	D	4	10-1-39	10-1-49	$ 2,000.00	$ 1,500.00	$ 1,920.00	$ 2,000.00
U. S. Savings	D	1	3-1-40	3-1-50	500.00	375.00	470.00	490.00
U. S. Savings	F	10	2-1-43	2-1-55	5,000.00	3,700.00	4,045.00	4,175.00
U. S. Savings	F	17	12-1-43	12-1-55	8,500.00	6,290.00	6,681.00	6,876.50
U. S. Savings	F	1	1-1-44	1-1-56	500.00	370.00	393.00	404.50
U. S. Savings	F	3	2-1-44	2-1-56	1,500.00	1,110.00	1,179.00	1,213.50
U. S. Savings	F	2	6-1-44	6-1-56	1,000.00	740.00	772.00	797.00
U. S. Savings	F	2	12-1-44	12-1-56	1,000.00	740.00	767.00	786.00
U. S. Savings	F	2	5-1-45	5-1-57	1,000.00	740.00	760.00	776.00
U. S. Savings	F	7	11-1-45	11-1-57	7,000.00	5,180.00	5,278.00	5,369.00
U. S. Treasury		3	2-1-44	9-15-56-59	15,000.00	15,248.44	15,248.44	15,248.44
					$43,000.00	$35,993.44	$37,513.44	$38,135.94

Legislative Committee

SPECIAL FUND

U. S. Savings	F	1	3-1-46	3-1-58	$ 500.00	$ 370.00	$ 377.00	$ 383.50
U. S. Savings	F	13	3-1-46	3-1-58	13,000.00	9,620.00	9,802.00	9,971.00
					$13,500.00	$ 9,990.00	$10,179.00	$10,354.50

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—MRS. C. E. HOLDERBY, Hilton Village
President-Elect—MRS. C. M. McCOY, Norfolk
Recording Sec'y—MRS. THOMAS S. CHALKLEY, Richmond
Corresponding Sec'y—MRS. J. W. CARNEY, Newport News
Treasurer—MRS. KALFORD W. HOWARD, Portsmouth
Parliamentarian—
MRS. THOS. N. HUNNICUTT, JR., Newport News
Historian—MRS. M. H. HARRIS, West Point
Publication Chm.—MRS. HERMAN W. FARBER, Petersburg

Arlington.

The Arlington Auxiliary sponsored a luncheon and fashion show for the benefit of the Arlington Hospital on September 13th and there was a profit of $510.00. This is to be used to help with a $25,000 payment on the building.

The first regular luncheon meeting was held on September 20th, and Mrs. Neyna Darcy of the Shut-Ins Cooperative Service gave a talk on the handicraft of the shut-ins and displayed some of the products for sale.

At the meeting on October 18th, Dr. John T. Hazel, president of the Arlington Medical Society spoke on the value of the Auxiliary to the Society and to the community. Dr. John B. Leary, secretary, explained the twelve point program of the American Medical Association.

MARIE L. NORMENT (MRS. R. L.)
Publicity Chairman

Northampton-Accomac Auxiliary.

The Auxiliary to the Northampton-Accomac Society held its regular fall meeting at the home of Mrs. W. J. Sturgis, Sr., at Nassawadox on November 4th. A delicious luncheon and a social hour were followed with the business meeting. Mrs. J. Fred Edmonds reported on the meeting of the State Auxiliary at the Chamberlin Hotel in October. Mrs. C. E. Critcher, chairman, reported on the work of the Grace Wilkins Holland Memorial Fund Committee and it was unanimously voted that the Auxiliary furnish and maintain a room in the Northampton-Accomac Hospital in memory of Mrs. Holland.

New officers were elected as follows: President, Mrs. E. Holland Trower, Eastville; vice-president, Mrs. W. T. Green, Jr., Nassawadox; secretary, Mrs. S. S. Kellam, Cape Charles; and treasurer, Mrs. John W. Robertson, Onancock. Mrs. Sturgis, the retiring president, was presented with a beautifully engraved glass goblet which was taken from the Spanish ship, *The Alamo,* which went ashore on Hog Island in 1890.

BOOK ANNOUNCEMENTS

Shearer's Manual of Human Dissection. Edited by CHARLES E. TOBIN, Ph.D., Associate Professor of Anatomy, The University of Rochester School of Medicine and Dentistry. Second Edition. The Blakiston Company, Philadelphia. 1949. 286 pages. 79 Illustrations. Cloth. Price $4.50.

This review concerns itself with the second edition of *Shearer's Manual of Human Dissection,* edited by Charles E. Tobin.

In general, comparing the second edition with the first, there are no radical changes from the latter but rather a number of small changes here and there which lend the effect of producing a more efficient manual of dissection and one that is convenient to use.

The first thing which is apparent and marks an improvement over the first edition is the use of heavy black typing for the nomenclature of anatomical areas under study.

Minor changes in dissection procedure enable the dissector to achieve his goal more proficiently. For example, in the dissection of the triangles of the neck, attention is called to some of the distal branches of the ansa hypoglossi very early in the procedure thereby preserving these anatomical structures in their correct relationship until later in the deeper dissection of this region when the nerves can be traced back to their sources.

However, omission is not always a fallacy but rather sometimes a virtue. The second edition is shorter than the first and a lot of unnecessarily detailed anatomical description is left out. This is viewed with favor in light of the fact that the student often fails to grasp the reason for the use of his dissection manual and makes the mistake of substituting it for his text book. As aptly stated by the author in the preface, "However, the dissector should use this book in view of the purpose for which it is written—a manual of human dissection. Therefore, the information gained from the dissection and that obtained from the brief descriptions and illustrations in this manual should be supplemented by collateral reading in one of the standard descriptive texts, if he is to obtain a more thorough understanding of human anatomy."

G. W. B., JR.

EDITORIALS

The Great Physician

AT this season of the year the thoughts of the Christian World turn to the Great Physician whose birth we celebrate on December 25th. Much about Christ is enveloped in mystery. We are not even certain about the exact date of His birth. Some say that He was born on May 20th, others on April 19th or 20th. March 28th has been mentioned as the day. The Syrians and Armenians maintain that January 6th is the real time of the Nativity. "It is almost certain that the 25th of December cannot be the Nativity of the Saviour, for it is the height of the rainy season in Judea, and shepherds could hardly be watching their flocks by night in the plains."

Be that as it may, it is certain that Jesus went about healing the sick, doing good, and bringing comfort to the oppressed and the down trodden. It is also certain that Luke, the beloved Disciple, was a physician. In Christ and His Disciple, physicians have both a wonderful inspiration and a great heritage.

Just when the term "The Great Physician" was first used we have not been able to learn. In 1687, John Norris, an English clergyman, wrote a hymn beginning "Long have I viewed" in which he says "I'll trust my Great Physician's skill." Does anyone know an earlier reference?

Spontaneous Perforation of the Esophagus

IT is extremely important to recognize surgical or medical conditions requiring emergency, life saving management. To lose such a case leaves an everlasting impression, but it is most satisfying to make a correct diagnosis in time to forestall a fatality in a remediable malady.

During the past four months two very comprehensive articles have appeared concerning the subject of Spontaneous Perforation of the Esophagus. (*Diseases of the Chest,* 16:49, 1949, *New England Journal of Medicine* 241:395, 1949).

It is of historical interest that one of the first cases recorded was that of the Grand Admiral of Holland, reported by Boerhaave in 1724. As more cases have accumulated, several common factors have been found to be responsible for and associated with this accident.

The usual story is as follows: A previously well individual begins to retch violently on a full stomach, often after indulging in too much alcohol. The gastric contents are ejected against the upper stomach and lower esophageal walls, exerting great expansile pressure so that there is rupture of the distal esophagus. The lesion is constant in that it occurs in the lower one-fifth of the esophagus, on the left posterolateral aspect and in a longitudinal direction. The mediastinal and left pleural spaces are then subjected to severe chemical and bacterial insult.

The most common symptom is pain in the chest, near the zyphoid, or in the upper abdomen, radiating straight through to the back. However, a recent patient died following a rupture of his esophagus and never complained of pain although he was conscious until a few minutes before his death. It was assumed that his blood alcohol was so high when his esophagus became perforated that painful stimuli were abolished. Shock is always present and signs of fluid in the left chest can usually be detected early. In two-thirds of the cases subcutaneous air can be palpated in or about the suprasternal notch and the supraclavicular fossa. Thoracentesis and chest X-rays are

of considerable value in making the diagnosis which must be differentiated from coronary thrombosis, perforated peptic ulcer, acute pancreatitis, dissecting aneurysm of the aorta, acute cholecystitis, spontaneous pneumothorax, pulmonary embolism and interstitial emphysema.

Although a few spontaneous recoveries have occurred, the majority will die unless surgery is accomplished as soon as possible by closure of the perforation, release of mediastinal pressure, and pleural drainage.

W.C.R.

Old Point Meeting

THERE was only one thing missing at the one hundred and second annual meeting of the Medical Society of Virginia held at Old Point Comfort on October 9-12. This was the presence of the Society's distinguished president, Dr. M. Pierce Rucker, who was ill at the time. His influence was evident, however, in many features of the meeting. In the House of Delegates, committees appointed by him made exhaustive reports on pertinent problems facing the Society. The approval of the committee report recommending the establishing of Reference Committees should facilitate the work of future House of Delegates meetings. His excellent selection of guest speakers was rewarded by outstanding addresses. His own presidential address, read at the Monday night session by the First Vice-President was a masterpiece and should be studied by each member of the Society as a guide in Society policy-making.

Tribute should be paid to Dr. W. C. Caudill, who assumed the presiding role and directed a successful meeting. The arrangements committee of the Warwick and Elizabeth City County Medical Societies, under the leadership of Dr. Waverly Payne and Dr. Paul Parker, had obviously planned with more than the usual diligence. Among the features resulting from their efforts were the performance of the Crusader's Chorus, the address by the Honorable Joshua W. Lee at the Tuesday evening banquet and a boat trip around Hampton Roads. Credit for the scientific sessions must be made to the seventy-four members who presented papers or collaborated in their preparation. Interest in these contributions was evidenced by good attendance at each session. There was "standing room only" when the clinical pathological conference started on Monday afternoon.

The best time to make suggestions regarding future meetings is immediately after the last. It seems appropriate therefore at this time to suggest that the scientific sessions be shorter, that there be more free time for visiting the scientific exhibits and for informal discussion and that the second meeting of the House of Delegates be so scheduled that it will not interfere with the scientific sessions. Arrangements for meetings of the Reference Committees will be a problem for the Roanoke meeting next year.

The report on this meeting would not be complete without a statistical summary. Six hundred and twenty-seven physicians, two hundred physicians' wives, and one hundred exhibitors registered. There were twenty-three scientific exhibits, two movies and forty-two technical exhibits.

Eighteen physicians became members of the "50 Year Club". This club of distinguished members should arrange an exclusive luncheon meeting as it is a very special society.

E.S.W.

Louis Pasteur (1822-1895)

THIS great French chemist had never received any formal education in medicine and yet he established two very important medical disciplines, bacteriology and immunology. By common consent he has been accorded a high place among the great men of medicine. The processes leading to his medical discoveries were quite logical for a scientifically trained mind, and very interesting. He became interested in "the world of the infinitely small" by his study of the crystals of dextro- and levo-rotary tartaric acid. When he was transferred from the Chair of Chemistry in Strasbourg to the Deanship of the *Faculté des Sciences* at Lille, he became interested in the diseases of beer and wine. Examining yeasts of sound and unsound beer under the microscope, he found a distinct difference. Investigation of this problem led to the elucidation of fermentation and incidentally to the refutal of the old idea of spontaneous generation. It also led to Lister's developing antisepsis and later asepsis in surgery. No wonder Pasteur quoted Benjamin Franklin's adage, that a scientific discovery was like a newborn baby—you never could tell what it would grow up to be.

In 1865, Pasteur went to Southern France to investigate a disease of silkworms which was ruining the silkworm industry. He isolated the bacilli of two distinct diseases and found the method of detecting diseased stock and of preventing contagion. He next undertook to study anthrax which was prevalent in French cattle and sheep, and worked out the entire natural history of the disease. In the meantime an epidemic of chicken cholera, destroying ten per cent of the French fowls, claimed his attention. Not only did he destroy the causative germ but he grew it in attenuated form and with it was able to render fowls immune to the virulent form of the disease. Returning to the study of anthrax, he developed a vaccine against that disease. In 1878-9 he discovered the staphylococcus pyogenes in boils and the streptococcus pyogenes in puerperal septicemia.

Applying the principles he had learned in his work on chicken cholera and anthrax he developed a curative and preventive treatment of hydrophobia. His work up to this point had saved French industry and agriculture more than the whole stupendous war indemnity paid to Germany in 1870. His work with the hydrophobia now saved thousands of human lives. A grateful nation built the Pasteur Institute so that he might carry on his work in suitable quarters.

Besides his great discoveries, Pasteur is noteworthy for the brilliant pupils he trained at the Institute and for the beautiful life he led. Among his pupils were Metchnikoff, Roux, Yersin, Calmette and Chamberland. He was devoted to his work and many of his outstanding achievements came after he had been partially paralyzed. He had a devoted wife and was a simple and devout Christian.

This is the 7th of a series "Doctor for whom the public should be thankful".

The Road Ahead

JOHN T. FLYNN tells how the Fabians made England a socialized state without the English people knowing what was happening. He also tells how the socialistic planners are doing the same thing in this country, and that we are further along the road than many of us think.

We have never before recommended a book in our editorial columns, but this little book should be read by every doctor, as well as everyone else who loves our American way of life.

SOCIETIES

The Northern Neck Medical Association

Held its fall meeting at The Tides Inn, Irvington, October 29. At the business meeting of the Association the following officers were elected for the ensuing year: President, Dr. Mercer Neal, Heathsville; Vice-Presidents, Dr. Motley Booker, Lottsburg, and Dr. H. E. Sisson, Warsaw, and Secretary-Treasurer, Dr. Paul C. Pearson, Warsaw.

The Association reluctantly accepted the resignation of Dr. Lee S. Liggan of Irvington as secretary and treasurer. He served faithfully for many years in this capacity, and made a most faithful worker.

Following the business meeting the society, guests of the society, and Woman's Auxiliary, were guests of Van Pelt & Brown at a cocktail party and luncheon at the Inn. At the afternoon session a paper on "Headache" was given by Dr. J. Warren Montague. Following this was a talk on the "Present Day Concept of Childhood Tuberculosis" by Dr. Edwin L. Kendig. Dr. Webster Barnes gave a paper on "The oft Misunderstood Facts about Inguinal Hernias", and Dr. T. B. Washington talked on the subject, "Oliguria and Anuria, with Specific Emphasis on Lower Nephron Nephrosis." All speakers were from Richmond.

Drs. H. W. Kinderman, J. E. Stevens, M. H. Harris, W. Lowndes Peple, Jr., H. P. Hardy, and H. W. Kennard were made honorary members.

The meeting was well attended by members and guests and the annual banquet was given at the conclusion of the meeting.

On the last Thursday in January 1950 the Association plans to meet at 6:00 P. M. in Warsaw.

PAUL C. PEARSON,
Secretary

The Mid-Tidewater Medical Society

Held its fourth quarterly meeting for 1949 at Tappahannock, October 25, Dr. M. H. Harris presiding. No report on the proceedings of the convention of the State Medical Society was made as none of the delegates had attended enough of the sessions to make a report.

Dr. Raymond Brown outlined the history of the establishment of the Guidance Clinic at Williamsburg and discussed the work that this Clinic is doing and what it is expected to do. A description of the hospital for chronic diseases that has been established at Camp Patrick Henry was given by Dr. Harris.

A nominating committee was appointed to recommend candidates for the next year. Dr. Harry Tabb, chairman, Dr. T. E. Smith and Dr. W. H. Hosfield were named to the committee. This committee nominated for President-elect: Dr. R. D. Bates, Newtown; Vice-Presidents, Dr. Raymond Brown, Gloucester; Dr. A. W. Lewis, Sr., Aylett; Dr. J. M. Gouldin, Tappahannock; Dr. J. R. Gill, Mathews; Dr. A. W. Lewis, Jr., Aylett; Dr. A. L. VanName, Urbanna; Dr. C. Campbell, Sparta; Secretary-Treasurer, Dr. M. H. Harris, West Point. These candidates were elected without a dissenting vote. Dr. Joseph W. Chinn, Tappahannock, succeeds to the presidency.

The president appointed a program committee which was charged with the responsibility of preparing programs for the future meetings, and the same committtee that had been appointed for the nominating committee was named to continue as the program committee.

Papers were presented by Dr. Frank Johns of Richmond on "Gall Bladder Disease" and by Dr. Charles Caravati, also of Richmond, on "Gastric Analysis".

The Augusta County Medical Association

Held its quarterly session at the Woodrow Wilson Rehabilitation Center on November 2nd under the presidency of Dr. Charles F. Gaylord, Staunton. Dr. Milton Neuroth, professor of pharmacy at the Medical College of Virginia, gave an interpretation of federal and state laws as they apply to the dispensing of drugs and narcotics, and Dr. Sidney G. Page, Jr., associate professor of medicine and pharmacology of the College, spoke on "Newer Antibiotics". This phase of the program was sponsored by the druggists of the vicinity, a number of whom were in attendance. Dr. Josephine J. Buchanan, director of medical services at the Center, spoke on "Physical Medicine and Rehabilitation".

At the business session, a resolution "inviting Negro physicians of Augusta County and adjacent territory, to be allowed the privilege of attending the scientific sessions of the Augusta County Medical Association" was adopted. This was prompted to provide Negro physicians access to new advance-

ment in medical science, realizing the services of Negro physicians to their own race, and, in many instances, to white patients. The resolution also recognizes limited opportunities for post-graduate work and participation in scientific study for Negro physicians.

The Fairfax County Medical Society

Met October 28 at the Dardanelles Restaurant in Falls Church, at which time the new slate of officers assumed their duties. Dr. J. D. Zylman and Dr. Alice Kiessling, both of Falls Church, are president and secretary, respectively. Dr. John A. Reisinger, a cardiologist of Washington, D. C., spoke on "Cardiac Failure". The relationship of county physicians to the public and to the County Lay Health Committee and the new State Health program were discussed. The President appointed new committees —the Public Relations and Economics. Following adjournment, refreshments were served.

Shenandoah County Medical Society.

Dr. R. W. Stoneburner, Edinburg, has been elected president of this Society, succeeding Dr. G. G. Crawford of Strasburg, deceased. Dr. Frank W. Gearing, Jr., Woodstock, is secretary.

Virginia Peninsula Academy of Medicine.

Dr. E. Perry McCollagh, head of the department of Endocrinology, Cleveland Clinic, Cleveland, Ohio, was the guest speaker before the Academy at its October meeting, his topic being "Testicular Dysfunction". Dr. Russell Buxton of Newport News presided and there were sixty-one physicians in attendance.

The speaker for the November meeting was to be Dr. Bayard Carter, head of the department of Obstetrics at Duke University School of Medicine.

WILLIAM A. READ,
Secretary.

NEWS

A Reminder of Your State License Tax.

In accordance with the Tax Code of Virginia, doctors are advised that State license taxes should be filed and license obtained on or before January 1, 1950. Only those are exempt who have practiced medicine regularly in the State since January 1, 1909. The proper fee is to be paid to the treasurer of the county or city in which the license is issued, but such license permits practice throughout the State.

Special Societies Meet.

During the time of the meeting of the Medical Society of Virginia at Old Point Comfort, in October, the following special societies held their annual meetings and elected officers:

VIRGINIA SECTION, AMERICAN ACADEMY OF GENERAL PRACTICE

President, Dr. J. D. Hagood, Clover; president-elect, Dr. Ira Hancock, Creeds; vice-president, Dr. Fred D. Maphis, Strasburg; secretary, Dr. E. E. Haddock, Richmond; treasurer, Dr. W. R. Pretlow, Warrenton; and directors, Dr. N. D. Nelms, Hampton, Dr. W. J. Ozlin, South Hill. Dr. Harold Miller, Woodstock, Dr. Frank A. Farmer, Roanoke, Dr. Mary E. Johnston, Tazewell, Dr. W. L. Ball, Richmond, Dr. B. A. Hopkins, Stuart, Dr. J. C. Coulter, Charlottesville, and Dr. H. W. Rogers, Norfolk.

Chairmen of various committees named are: *Hospital,* Dr. Harold Miller; *Professional and Public Relations,* Dr. Frank A. Farmer; *Medical Coordination,* Dr. W. L. Ball; *Education and Program,* Dr. John O. Boyd, Jr.; and the *Membership Committee for State Organization,* the President, President-elect and Secretary.

VIRGINIA DIABETES ASSOCIATION

On October 9, at the Chamberlin Hotel, the Clinical Society of the Virginia Diabetes Association was formed. The officers elected are: Chairman, Dr. William R. Jordan, Richmond; vice-chairmen, Dr. Walter J. Adams, Norfolk, and Dr. Snowden C. Hall, Danville; secretary-treasurer, Dr. Robert L. Bailey, Jr., Richmond; council members, Dr. H. B. Mulholland, Charlottesville, and Dr. C. D. Nofsinger, Roanoke.

Plans have been made for an annual meeting at the time of the annual meeting of the Medical Society of Virginia, the next to be on Sunday, October 8, 1950, at Hotel Roanoke. Any member of the Medical Society of Virginia is eligible for membership and invited to join.

VIRGINIA OBSTETRICAL AND GYNECOLOGICAL SOCIETY

This Society at its meeting on October 12, elected Dr. Richard B. Nicholls of Norfolk, as president; Dr. John M. Nokes of Charlottesville as president-elect; and Dr. C. D. Bradley of Newport News, as secretary-treasurer.

Dr. Arthur T. Hertig, Boston, made a talk on his work with the early embryo and Dr. Winslow T. Tompkins, Philadelphia, talked on diet in pregnancy, with particular reference to the toxemias.

VIRGINIA ORTHOPEDIC SOCIETY

President, Dr. O. Anderson Engh, Arlington; vice-president, Dr. Charles J. Frankel, Charlottesville; secretary-treasurer, Dr. Allen M. Ferry, Arlington.

VIRGINIA PEDIATRIC SOCIETY

President, Dr. McLemore Birdsong, Charlottesville; vice-president, Dr. Edwin L. Kendig, Richmond; secretary-treasurer, Dr. E. B. Neal (re-elected), Roanoke.

VIRGINIA RADIOLOGICAL SOCIETY

President, Dr. Robert A. Davis, Newport News; vice-president, Dr. William P. Gilmer, Clifton Forge; secretary-treasurer, Dr. P. B. Parsons (re-elected), Norfolk.

The second Scientific Session of the Society will be held in Charlottesville early in 1950.

VIRGINIA UROLOGICAL SOCIETY

President, Dr. Herbert D. Wolff, Alexandria; vice-president, Dr. Robert C. Bunts, Richmond; secretary-treasurer, Dr. W. W. Koontz (re-elected), Lynchburg.

The American Medical Association,

At its third annual Clinical Session in Washington, D. C., December 6 to 9 includes in its program scientific lectures and clinical sessions on an interesting variety of key topics by outstanding doctors. The exhibits—scientific and technical—show many developments in the progress of modern medicine. Actual surgical procedures will be shown by color television. On Wednesday evening, the 7th, there will be a broadcast of Ralph Edward's famous radio show, This is Your Life, and this will be followed by a stage show to which all attending the session are invited. Everything possible will be done to make this session interesting and valuable to the general practitioner.

It is hoped that a large number of Virginia doctors may attend, if for only part of the meeting.

American College of Surgeons.

Nine hundred and twenty-one initiates were received into fellowship by the College at the convocation, October 21, which was the closing session of the thirty-fifth annual Clinical Congress in Chicago. Virginia doctors received into fellowship are:

Dr. Richard P. Bell, Jr., Staunton
Dr. David B. Corcoran, Suffolk
Dr. Charles J. Devine, Sr., Norfolk
Dr. Glassell S. Fitz-Hugh, Charlottesville
Dr. John T. Hazel, Arlington
Dr. A. L. Herring, Jr., Richmond
Dr. Brock D. Jones, Jr., Norfolk
Dr. George R. Minor, Charlottesville
Dr. John L. Smoot, Fredericksburg
Dr. George Speck, Arlington

A School of Hospital Administration,

The first in Virginia, has been established at the Medical College of Virginia (Richmond). The new school, which has as its purpose the preparing of men and women for careers in the greatly expanding field of hospital administration, will begin instruction January 2, 1950.

Information and application forms for admission to the new school may be obtained from Mr. A. J. Howell, director, at the Medical College of Virginia.

Dr. William Lawrence Gatewood,

Formerly of New York and for many years attending and consulting Plastic Surgeon to a number of New York's larger hospitals, is now located in Richmond. Dr. Gatewood is a Life Fellow of the New York Academy of Medicine and a member of the American Society of Plastic and Reconstructive Surgery which is limited to a membership of one hundred in the United States and Canada.

He will restrict his practice to Plastic Surgery of the Head and Neck.

Dr. J. Langdon Moss,

Class of December 1943, University of Virginia, recently of Louisa, has moved to Richmond and will open his office at 5001 Grove Avenue, about December 1, where he will be engaged in general practice. He is also doing part time work in the admissions office at McGuire VA Hospital.

Married.

Dr. Paul Webster Bowden and Mrs. Frances McAllister Simes, both of Richmond, November 5th.

Dr. John Lemuel Thornton, Warrenton, and Miss Majorie Mae Lucas, Richmond, November 5th. They will make their home in Philadelphia.

Dr. Robert L. Ozlin,

Who has for many years made his home in New York City, has returned to Virginia and is located at South Hill, where he will be engaged in practice.

Dr. Clifford F. Gryte,

Formerly of Franklin, is now located at Huron, South Dakota, where he is associated with the Huron Clinic.

Dr. John T. Walke,

Roanoke, has recently become a diplomate of the American Board of Pediatrics.

A Team for Tuberculosis Control.

Today there are thousands of workers whose prime objective is the control of tuberculosis. Many of these workers are employed by voluntary tuberculosis associations throughout the country. The continuation of the contribution made by these voluntary organizations depends entirely upon the funds raised each year in the sale of Christmas Seals. The control of tuberculosis involves acquiring new knowledge—research; and distributing existing knowledge —education. Here in Virginia, we are fortunate that our tuberculosis associations, our medical profession and our health departments work as a team. You can help to keep the voluntary group in action through the purchase of Christmas Seals which will be on sale in your locality from Thanksgiving to Christmas.

Dr. T. Allen Kirk,

Roanoke, has been named president emeritus of the American Rose Society. Dr. Kirk's rose garden in Roanoke is well known to members of the Virginia Federation of Garden Clubs who were recently invited to tour it.

Southeastern Allergy Association.

The fifth annual meeting of this Association will be held at the Columbia Hotel, Columbia, S. C., on February 11 and 12, 1950. Guest speakers will be Dr. Jonathan Forman, president of the American College of Allergists and Dr. Theodore Squire, president-elect of the American Academy of Allergy.

In view of the popularity of panel discussions, there will again be two, one on "Pediatric Allergy" with Dr. Lewis Hoppe of Atlanta as coordinator, and the other on "Office Procedure" with Dr. Warrick Thomas of Richmond as coordinator.

Hotel reservations should be made directly with the Columbia Hotel, Columbia, S. C. Dr. Katharine Baylis MacInnis, 1515 Bull Street, Columbia, is secretary of the Association.

Dr. Edmund Moseley LaPrade

Announces the opening of his office for the practice of otorhinolaryngology at 923 West Franklin Street, Richmond.

Dr. Robert L. Bailey, Jr.,

Announces the opening of his office for the practice of internal medicine and metabolic diseases at 1001 West Franklin Street, Richmond.

American College of Surgeons, Sectional Meeting.

A two-day Sectional Meeting of the American College of Surgeons is to be held at the Belleview-Biltmore Hotel, Belleair, Florida, on January 9 and 10. This section consists of the states of Virginia, North Carolina, South Carolina, Georgia, Mississippi, Alabama, and Florida. This meeting will consist of all day and evening conferences on timely surgical subjects and separate meetings for hospital personnel where hospital problems will be considered at panels and round table discussions.

The surgical program will include some new surgical motion picture films, papers and panels on such subjects as: Arterial Lesions of the Extremities, Hormone Therapy in Breast Lesions, Intestinal Obstruction, Gastric and Intestinal Intubation, Treatment of Head Injuries, Surgery of the Hand, Surgical Lesions of the Stomach, Caesarean Section, Management of Uterine Prolapse, the Management of Traumatic Conditions, and a Symposium on Cancer.

Members of the Medical Society of Virginia and personnel of Virginia hospitals are invited to attend this meeting. The Fellows of the College in Florida wish to assure all visitors that adequate hotel accommodations will be available and that they will be made most welcome at all of the sessions.

Richmond Eye Hospital Gets Grant.

An allotment of $35,600 in Federal funds to the Richmond Eye Hospital's $544,945 construction

program has been approved by the Virginia Advisory Hospital Council. The eye hospital will be located at 408 North Twelfth Street, adjacent to the Medical College of Virginia. Plans call for a 50-bed hospital which also will make available to the college opportunities for teaching, training of specialists and for research.

National Conference on Heart Disease.

A Conference on Cardiovascular Diseases will be held in Washington, D. C., January 18-20, 1950, under the joint sponsorship of the American Heart Association and the National Heart Institute of the U. S. Public Health Service. This will be the first national conference bringing together physicians, scientists, community service leaders, and members of allied professions to formulate a comprehensive program to combat the nation's leading cause of death.

Dr. H. M. Marvin, President of the American Heart Association, and Dr. C. J. Van Slyke, Director of the National Heart Institute, will be Co-Chairmen of the Conference.

"The time is ripe," said the co-chairmen in a statement, "for the forces of research, community service, and education to close ranks in the fight against diseases of the heart and circulation. This conference, we hope, will provide the guideposts for a comprehensive and concrete program of action to correlate an all-out national attack on the heart disease problem."

To Assist Doctor for Short Vacation.

Young doctor in resident training has two weeks vacation and will substitute for physician wishing to take short vacation. Address Dr. James H. Davidson, Watts Hospital, Durham, North Carolina. (*Adv.*)

Physician Wanted.

Young physician wishing to locate in growing community on two railroads, No. 1 highway, excellent farming and lumber industry, should at once write or wire "Town of Alberta, Alberta, Virginia." (*Adv.*)

Wanted:

E.E.N. & T. man to work with small group in Virginia. Excellent opportunity. Write "100. care Virginia Medical Monthly, 1200 East Clay Street, Richmond 19, Va." (*Adv.*)

Wanted:

Technician, registered or eligible for registry, for clinical laboratory in a 150 bed hospital in Virginia. Full time pathologist, five technicians. Salary, $185 with meals and laundry. Apply "C. O., care this journal, 1200 East Clay Street, Richmond 19".

OBITUARIES

Dr. Thomas Poindexter West,

Well-known physician of Bedford, died November 6th. He was seventy-five years of age and a graduate of the Medical College of Virginia in 1897. Dr. West retired several years ago after having been in general practice for fifty years and had been associated with his brother in the citrus business in Florida. He had been prominent in civic and fraternal affairs in Bedford and was chairman of the Bedford County Board of Health and a member of the county school board. He had been a member of the Medical Society of Virginia for fifty years and was made a Life Member at its 1948 meeting. His wife and a daughter survive him.

Dr. John Dilworth Stroud,

Prominent physician of Norfolk, died October 25th, having been in bad health for more than a year. He was sixty-five years of age and a graduate in medicine from the University of Virginia in 1908. Dr. Stroud had been a member of the Medical Society of Virginia for thirty-four years. His wife and four children survive him.

Dr. William Lott Ainsworth,

Resident urologist at the University of Virginia, died of a heart attack on October 24th soon after completing his rounds. He was a native of Bay Springs, Mississippi, and thirty-one years of age. His wife and a son survive him.

Dr. William Meade Archer,

Retired army physician, died at his home in Richmond on November 5th, at the age of seventy-one. He was a graduate of the Medical College of Virginia in 1904, following which he served with the army in China, the Philippines and other foreign posts.

VIRGINIA MEDICAL MONTHLY

INDEX TO VOLUME LXXVI

January 1949—December 1949, inclusive

January	— pages 1- 54	May	— pages 213-270	September	— pages 433-498
February	— pages 55-104	June	— pages 271-326	October	— pages 499-556
March	— pages 105-158	July	— pages 327-380	November	— pages 557-610
April	— pages 159-212	August	— pages 381-432	December	— pages 611-671

AUTHOR INDEX

Albertson, Horace A., 532
Almack, Ronald B., 381
Bailey, Robert L., 411
Barksdale, Edwin E., 278
Barnes, Webster P., 107
Beckwith, J. R., 629
Behrend, Moses, 359
Birdsong, McLemore, 83
Brownley, Harvey C., 63
Blanton, Wyndham B., 44
Bloom, Nathan, 307
Boger, William P., 56
Bower, Richard E., 27
Bradley, Chester D., 436, 539
Bradley, Miriam D., 436
Bray, William E., Jr., 174
Browne, O'Donel, 433
Bunts, R. Carl, 243
Camp, Paul D., 281
Cheek, Thomas S., 483
Chewning, C. C., 340
Chitwood, W. R., 128
Coleman, C. C., 516, 611
Coleman, Frank Philip, 170
Cooper, George, Jr., 336
Craddock, George B., 130
Crockett, Franklin Smith, 217
Crowder, R. Vincent, 130
Custer, Monford D., 334
Drewry, P. H., Jr., 613
Dreyfuss, M. L., 356
Dunn, Robert G., 30
Eisenberg, S. J., 620
Ellis, George S., 278
Farber, Herman, 574
Ferguson, H. E., 222
Finnegan, Theodore E., 298
Flippin, Harrison F., 56
Floyd, John B., Jr., 583
Forbes, J. C., 182
Frankel, Charles J., 336
Funkhouser, James B., 472
Gammage, F. V., 135
Gatewood, William L., 579
Gayle, R. Finley, 483
Gill, Elbyrne G., 521
Grant, Isa C., 182
Harper, Edwin A., 32
Harper, E. C., 213
Harrell, C. Lydon, 167
Hendricks, Thomas A., 219
Higgins, William H., 86
Higgins, William H., Jr., 400
Hoge, Randolph H., 303
Holmes, E. M., Jr., 105, 275
Holt, Howard P., 13
Hooten, C. Gibson, Jr., 121
Hooten, William S., 121
Hortenstine, John C., 329
Hudson, Gwen S., 295
Hutcheson, J. Morrison, 327
Hutton, A. D., 308
Irons, Malene Grant, 182
Ivy, A. C., 547
Johns, William A., 640
Johnson, C. Earle, Jr., 39
Johnston, C. Frederick, Jr., 292
Jones, Basil B., 118
Jones, Gordon W., 35
Jordan, William R., 557
Kaufman, William H., 247
Kay, William R., 502
Keyser, Linwood D., 564
Kriz, Joseph R., 347
Lacy, E. Willis, Jr., 332
Leavell, Byrd S., 13
LeHew, Allen E., 128
Lehman, Edwin P., 3
L'Engle, Camillus S., Jr., 83
Looney, W. B., 73
Lowenberg, Eugene L., 594
Lull, George F., 55
Malament, Maxwell, 243
Mandeville, F. B., 620
Markham, J. David, 347
Martin, Walter B., 1, 214
McGuire, William P., 69, 330
McIlwaine, William B., 574
Menk, Karl F., 186
Meredith, H. Clarkson, 288
Meredith, J. M., 516
Mitchell, Joe E., 121
Moore, Jeffery P., 234
Morris, John S., 182
Morton, Charles Bruce, 2nd, 115
Moss, James M., 186
Moss, Lloyd F., 23
Mulholland, H. B., 214
Mullen, F. N., Jr., 88
Murrell, Thomas W., 92
Neale, Claude L., 483
Nelson, Kinloch, 589
Pearce, Leroy S., 249
Pillow, Randolph P., 298
Putney, Charles W., 297
Raiford, Morgan B., 586
Ransone, John Taylor, 79
Ridgway, Duvahl, 344
Riley, C. L., 127
Roberts, Ernest S., 543
Rucker, M. Pierce, 559
Rusk, Howard A., 271
Sahyoun, P. F., 620
Schnurman, Albert G., 78
Scott, D. W., Jr., 8
Scott, Ernest G., 225
Sease, R. H., 629
Skinner, H. L., 178
Smith, James H., 161
Smith, Robert R., 178
Smoot, J. L., 8
Stanley, Thomas E., 416
Stone, Harvey B., 159
Suter, J. M., 638
Sweet, William H., 499
Terrell, Robert V., 240
Thomas, George C. G., 405
Thrift, George N., 239
Tompkins, E. P., 37
Toone, Elam C., Jr., 23, 230, 400
Troland, C. E., 516
Trout, Hugh H., Jr., 532
Tucker, H. St. George, 502
Turner, V. A., 479
Vermilya, George D., 27
Viets, Henry R., 384
Warthen, Harry J., 528
White, Charles S., 511
Whitehouse, Francis R., 76
Williams, John P., 347
Williams, Robert K., 589
Wilson, David C., 405
Wingfield, William L., 230
Zwick, Karl G., 422

SUBJECT INDEX

Agenesis, Ovarian (Turner's syndrome): report of a case with post-mortem findings, 186
Allergy to nutrition, disease and behavior in childhood, Relation of food, 118
Aluminum foil as a dressing, 640
Amaurosis, Uniocular hysterical, 135
American Medical Association assessment, 140, 197, 257, 364
Anemia, The variable clinical manifestations of sickle cell, 400
Anesthesia in its relationship to surgery, 308
Ano-rectal disease: incidence in 300 males of military age with particular reference to polyposis, 76
Antibiotic therapy, 545; Recent advances in — and sulphonamide therapy, 56
Antihistaminic drugs in dermatology, The use of the, 278
Anuria during combined sulfonamide therapy, A case of, 128
Anxiety states, Subshock insulin therapy in, 483
Atomic bomb, Medical aspects of the, 73
Arachnoiditis, Optochiasmatic, report of a case, 586
Arteriosclerotic heart disease in diabetics, 411
Bacterial endocarditis: its early diagnosis in modern treatment, 281; The treatment of — —: report of twelve cases, 589

Bibliotheca Obstetrica

Columbus, Matthseus Realdus, 302
Cook, Henry Wireman, 294
Dewees, William Potts, 593
Douglas, James, 404
Douglas, John, 129
Hamilton, James, 482
Hippocrates, 200
Hoboken, Nicolaus, 39
Miller, Peter, 233
Pratis, Jason A., 612
Rosslin, Eucharius, 604
Rueff, Jacob, 62
Sanger, Max, 501

Bladder, Transurethral resection and the neurogenic, 243
Blood, diseases of, 13; The role of the liver in — coagulation, 356

Book Announcements

Abramson—Psychodynamics and the Allergic Patient, 201
American Academy of Pediatrics—Child Health Services and Pediatric Education, 317
Anderson—Pathology, 144
Bagby-Bagby—The Old Virginia Gentleman and Other Sketches, 201
Blakiston's New Gould Medical Dictionary, 490
Cole—Lung Dust Lesions (Pneumoconiosis) Versus Tuberculosis, 202
Corbett—Help Yourself to Better Sight, 365
Cournand-Baldwin-Himmelstein—Cardiac Catherization in Congenital Heart Disease, 489
Davison—The Compleat Pediatrician, 365
Davison—Handbook of Materia Medica, Toxicology, and Pharmacology, 365
Duke-Elder—The Practice of Refraction, 489
Flynn—The Road Ahead, 666
Gordon—Aesculapius Comes to the Colonies, 601
Gordon—Medicine Throughout Antiquity, 365
Herrmann—Clinical Case Taking, 489
Lawrence—The Skin Problem Facing Young Men and Women, 489
Lieb—Outwitting Your Years, 365
McCrae—Clinical Urology, 317
Meakins—Symptoms in Diagnosis, 202
Merrill—Atlas of Roentgenographic Positions, 489
Mitscherlick-Mielke—Doctors of Infamy, 143
Moon—How to Become a Doctor, 365
New York Academy of Medicine—Social Medicine, 143
Poliomyelitis, 547
Riley—Essentials of Gynecologic Endocrinology, 143
Shands-Rancy—Handbook of Orthopedic Surgery, 143
Smith-Gault—Essentials of Pathology, 365
South Carolina Medical Association, A Brief History of, 43
Titus-Shackelford—Atlas of Obstetric Technic, 547
Tobin—Shearer's Manual of Human Dissection. 663
Trends in Medical Education, 489
Vaughan-Black—Practice of Allergy, 96
Wolff—Marihuana in Latin America: The Threat It Constitutes, 547

Bowel tumors, Small, 27
Brain tumor, Early diagnosis of, 516
British medicine, 92; Successful treatment of gold dermatitis with — anti-Lewisite: case report, 23
Brucellosis, 315
Burns, Aluminum foil as a dressing for, 640
Caesarean section: report of 600 cases, 249
Calcaneus, Unicameral cyst of the, 30
Calcinosis: report of a case, 230
Cancer: case report, 138, 191, 253, 362; — in general practice, 3; Professional responsibility in the control of —, 86; Results of 1,000 examinations in the Bessie Dunn Miller — Detection Center, 174
Cardiac rehabilitation, Adult, 307
Care, Medical (panel discussion), 214; American Medical Association's responsibility in problem of — —, 214
Carcinoma of the esophagus, Treatment of, 170
Carpal injuries, Diagnosis and treatment of, 336
Cataract surgery, Recent advances in, 521
Cellulose in traumatic injuries, Hemostatic absorbable oxidized, 292
Childbirth, Effect of the moon on, 78
Children, Subcutaneous plasma infusion in convalescent, 182
Chronic disease, Dynamic therapeutics in, 271

Colleges

Medical College of Virginia, 374
University of Virginia, School of Medicine, 428

Coccidiodomycosis, The recognition of the late pulmonary residuals of, 298
Commandments of pre-payment, Ten, 219
Cyanosis in infants from polluted well water, 32
Cyst of the calcaneus, Unicameral, 30

Deaths

William Lott Ainsworth, 671
Lewis Mines Allen, 325
Joseph James Anderson, 380
William Meade Archer, 671
Russell B. Bailey, 610
Clifford Harry Beach, 158
Staige Davis Blackford, 497, 556
Russell E. Blankinship, Jr., 54
Charles Armistead Blanton, 551, 555
Philip Williams Boyd, 457, 212
Erwin Carter Brandon, 212
William Norwood Breckinridge, 270
Isham Keith Briggs, 157
J. David Buchanan, 212
Irving Lee Chapman, 157
Walter Neale Chinn, 432

George Gilbert Crawford, 555
Hugh S. Cumming, 104, 145
Charles O. Dearmont, 210
Arthur Hamilton Deekens, 380
Charles Bickley Fox, 157
John William Freed, 556
Robert Vivian Funsten, 498
William Armistead Gills, 54
George Blight Harrison, 380, 432
Isaac Carrington Harrison, 211
Walter Fitzgerald Hartman, 326
Ashton Harwood, 380
Philip L. Hill, 498, 556
Walter H. Janney, 104
Rufus Speed Kight, 157, 212
William Douglas Macon, 104, 158, 258
Hunter Holmes McGuire, 156
Spurgeon Boon Moore, 326
Lucius Daniel Morgan, 212
William Gerry Morgan, 432
Frank Jordan Morrison, 498
David C. Morton, 610
Arthur Douglas Parker, 432
Wilbur Moorhead Phelps, 498
Henry Garnett Plaster, 556
Benjamin Franklin Randolph, 270
Frank Harrell Redwood, 379
J. A. Rucker, 212
Andrew G. Shetter, 54
George Lee Smith, 54
Albert Micou Sneed, 497
Hack Urquhart Stephenson, 104
John Dilworth Stroud, 671
Talmage Bryan Weatherly, 555
Thomas Poindexter West, 671
George Clegg Williams, 380
Walter Lewis Williams, 432
Daniel Dodson Willcox, 326

Deficiency in surgical practice, Protein, 511
DeJarnette State Sanatorium, 38
Delivery, An unusual case of hydrocephalus with some comments on, 539
Dermatitis with British anti-Lewisite, Successful treatment of gold: case report, 23
Dermatology, Diagnosis in, 247; The use of the antihistaminic drugs in —, 278
Diabetes, The problem of, 557
Diabetic, Acute thrombocytopenic purpura following massive hormone therapy in a pregnant, 344
Diabetics, Arteriosclerotic heart disease in, 411
Didelphys, Case of pregnancy complicated by uterus, 35
Diets, Experiences with low sodium, 225
Diphtheria in Virginia, 40
Diuretic, Analysis of 27 reported fatalities immediately following the injection of a mercurial, 416
Echinococcic cyst of the liver, 178

Editorials

Acrosclerosis, 493
Allergy to undergraduates, Teaching, 44
American Medical Association, 149; Atlantic City meeting of — — —, 424
Bernard, Claude, 548
Birth certificates, 100
Blanton, Charles Armistead, 151
British health service from a druggist's standpoint, 604
Brown-Sequard, Charles Edouard, 491
Care, Cost of medical, 46
Caudill, Walter Cleveland, 602
Cesarean sections, The influence of two Virginia, 369
Chickahominy fever, 204
Chloromycetin, Synthetic, 319
Consumer must desire, The, 603
Cumming, Dr. Hugh S., 145
Doctor in rural areas, A new approach to getting a, 204
Edwards, Miss Agnes, 371
English newspapers concerning the national health service, Clippings from, 261
Esophagus, Spontaneous perforation of the, 634
Gynecological Society's essay contest, Washington, 262
Health activities, Our scattered, 148; Why I dislike — insurance, 203; Public schools and public —, 45; Clippings from English newspapers concerning the national — program, 261
Jenner, Edward, 260
Lister, Joseph, 318
Medical care, 98; Cost of — —, 46
Mexico—South of the border, 320
Missionaries, Medical home, 321
Nebraska legislature petitions congress, 150
Old Point meeting, 665
Osler, Sir William, 369
Pasteur, Louis, 666
Patient says about another doctor, Never believe what another, 550
Physician, The great, 664
President, Our new, 602
Reed, Walter, 423
Road ahead, The, 666
Rochester, Minn., 549
Rural areas, A new approach to getting a doctor for, 204
St. Louis meeting of American Medical Association, 97
Salt diets, Tap water sodium in the low, 550
Schools and public health, Public, 45
South of the border, 320
Washington Gynecological Society's essay contest, 262
World Medical Association, 47

Educational campaign, National, 197
Electroencephalography, The clinical aspects of, 472
Endocarditis, Bacterial: its early diagnosis and modern treatment, 281; The treatment of — —: review of twelve cases, 589
England, Medical care in, 499
Esophagus, Treatment of carcinoma of the, 170
Ethics, A matter of professional, 611
Fallopian tube, Pregnancy complicated by primary torsion of a normal, 127
Fever, The present status of para-aminobenzoic acid therapy in Rocky Mountain Spotted, 121

Floral Eponyms

Brickellia, 134
Galtonia, 573
Lettsomia, 195
Shortia Galacifolia, 22
Stapelia, 551
Soemmeringia, Semperflorens, 435
Torreya, 383
Zaluzianskyia, 371
Zinnia, 253
Zollikoferia, 271, 422

Gallbladder in the first 72 hours, Surgical treatment of acute, 359
Ganglioneuroma, Intrathoracic hourglass: case report, 288, 430
Gastro-intestinal hemorrhage which appears uncontrollable, A method of treatment of massive, 543; Benign nonspecific neoplasms of the — tract, 8
Girls, Precocious puberty in, 303
Gold dermatitis with British anti-Lewisite, Successful treatment of: case report, 23
Health centers in Virginia, Planning and building hospitals and public, 381; Some practical public — problems in Virginia, 275; Rural —, 217
Heart disease in diabetics, Arteriosclerotic, 411
Hemopneumothorax, Spontaneous: report of two cases, 167
Hemorrhage which appears uncontrollable, A method of treatment of massive gastrointestinal, 543
Hemorrhoids, The injection treatment of internal, 340
Hemorrhagic diseases: classification, diagnosis and treatment, 13

Historical setting: Medical Society of Virginia, 436
Hodgkin's disease, Nitrogen mustard treatment of, 502
Hormone therapy in benign and malignant prostatism, The advantages and limitations of, 564
Hospitals and public health centers in Virginia, Planning and building, 381
Hydrocephalus with some comments on delivery, An unusual case of, 539
Hysterical amaurosis, Uniocular, 135
Ileitus, Regional: report of two cases with a summary of the literature, 107
Infants from polluted well water, Cyanosis in, 32
Influenza, 192
Insulin shock therapy in anxiety states, Subshock, 483
Intestinal tract, Benign nonspecific neoplasms of the gastro-, 8; A method of treatment of massive gastro — hemorrhage which appears uncontrollable, 543
Labour, The third stage of, 433
Liver in blood coagulation, The role of the, 356; Echinococcic cyst of the —, 178
Lymphoid hyperplasia of the naso-pharynx, Radium therapy for, 239
Lymphoma, Malignant: a clinico-pathologic-radiotherapeutic classification, 620
Malignant melanoma, Treatment of, 528
Medical care in England, 499; — — (panel discussion), 214; The American Medical Association's responsibility in problem of — —, 214
Medical Society of Virginia: historical setting, 435; Program, 444; Reports, 452; Delegates, 468; Council, 41, 193; Report of delegates to AMA, 94; Proceedings 1949 Annual Meeting, 644
Medicine, James Thacher and his influence on American, 384; Local responsibility of Federal control of —, 1; — and politics, 159; Progress in American —, 55; The future of — in Virginia, 559
Melanoma, Treatment of malignant, 528
Memories as basis for neurosis and physical illness, Pre-occupation with painful, 79
Meningitis in infancy, 574
Mercurial diuretic, An analysis of 27 reported fatalities immediately following the injection of a, 416
Miller Cancer Detection Center, Results of 1,000 examinations in the Bessie Dunn, 174
Moon on childbirth, Effect of the, 78
Movies doing to our young people, What are the, 37
Mullerian ducts, A consideration of the effects of minor degrees of failure of fusion of the, 295
Mustard treatment of Hodgkin's disease, Nitrogen, 502
Myeloma with pre-existing renal involvement, Influence of stilbamidine in multiple: case reports, 347
Nasopharynx, Radium therapy for lymphoid hyperplasia of the, 239
Neoplasms of the gastrointestinal tract, Benign nonspecific, 8
Nephron nephrosis, Lower, 327
Neurosis and physical illness, Pre-occupation with painful memories as basis for, 79
Newborn, Factors in pregnancy affecting the, 88
Nitrogen mustard treatment of Hodgkin's disease, 502
Nose, Pre-operative study of the malformed, 579
Obesity, Recent trend in treatment of, 222
Obliques, Diagnosis and treatment of the pareses of the, 69
Optochiasmatic arachnoiditis, report of a case, 586
Ovarian agenesis (Turner's Syndrome): report of a case with postmortem findings, 178
Ovary, Diagnosis and treatment of malignant tumors of, 115
Pancreatitis, Acute, 532; Etiological factors in —, 583
Pareses of the obliques, Diagnosis and treatment of, 69
Pericarditis, Acute Non-specific, 629
Physical illness and neurosis, Pre-occupation with painful memories as basis for, 79
Physician, The, 297
Plasma infusion in convalescent children, Subcutaneous, 182
Pneumothorax, Spontaneous hemo-: report of two cases, 167
Poliomyelitis, An outline of proposed experiments and observations for the further investigation of, 161; — prospect for 1949 in Virginia, 254; Significance of the recurring pattern in — incidence, 487
Politics and medicine, 159
Polyposis, Incidence of ano-rectal disease in 300 males of military age with particular reference to, 76
Pregnancy complicated by primary torsion of a normal Fallopian tube, 117; A case of — — — a uterus didelphys, 35; Factors in — affecting the newborn, 88
Pregnant diabetic, Acute thrombocytopenic purpura following massive hormone therapy in a, 344
Prepayment, Ten commandments of, 219
Presidential address: The future of Medicine in Virginia, 559
Professional ethics, A matter of, 611
Prostatism, The advantages and limitations of hormone therapy in benign and malignant, 564
Protein deficiency in surgical practice, 511
Psychoses, The early recognition of, 613
Puberty in girls, Precocious, 303
Public health problems in Virginia, Some practical, 275; The centenary of — —, 93
Pulmonary tularemia with report of two cases, 130; The recognition of the late — residuals of coccidiomycosis, 299
Purpura following massive hormone therapy in a pregnant diabetic, Acute thrombocytopenic, 344
Rabies, 139
Radiation, Dissemination and response of rhabdomyosarcoma to, 234
Radium therapy for lymphoid hyperplasia of the naso-pharynx, 239

Rectal disease in 300 males of military age with particular reference to polyposis, 76
Renal involvement, Influence of stilbamidine in multiple myeloma with pre-existing: case reports, 347
Respiratory infections, Acute, 63
Rhabdomyosarcoma: its dissemination and response to radiation, 234
Rickettsial diseases of probable interest in Virginia, 479
Rocky Mountain Spotted fever, The present status of para-aminobenzoic acid therapy in, 121; — — — —, 367
Rural health, 217
Schizophrenic states, The recognition of pre-, 405
Serologic test for syphilis, The problem of the false positive, 105
Shock insulin therapy in anxiety states, Sub-, 483
Sickle cell anemia, The variable clinical manifestations of, 400
Skin diseases, Diagnosis in, 247; The use of the antihistaminic drugs in — —, 278

Societies
Albemarle County Medical Society, 101
American Academy of General Practice, 267
American Cancer Society, 54
American College of Chest Physicians, 431
American College of Physicians, 267
American Gynecological Society, 376
American Medical Association, 429
Arlington County Medical Society, 101
Augusta County Medical Association, 552
Bedford County Medical Society, 205
Danville-Pittsylvania Academy of Medicine, 49
Fairfax County Medical Society, 605
Fauquier County Medical Society, 372
Fourth District Medical Society, 49
Fredericksburg Medical Society, 49
Hanover County Medical Society, 264
James River Medical Society, 152
Lee County Medical Society, 152
Loudoun County Medical Society, 101
Lynchburg Academy of Medicine, 49
Medical Library Association, 210
Medical Society of the State of North Carolina, 378
Medical Society of Virginia: Council, 41, 193; Report of AMA delegates, 94; Annual meeting, 265, 605; Committee on Arrangements, 377; 1881 meeting, 431; Program, 444; Reports, 452; Delegates, 468; Proceedings, 644
Mid-Tidewater Medical Society, 667
Nansemond County Medical Society, 495
Neuropsychiatric Society of Virginia, 268
Norfolk County Medical Society, 263, 372
North Carolina Division of American Heart Association, 496
Northampton County Medical Society, 151, 372
Northern Neck Medical Association, 667
Northern Virginia Medical Society, 49
Orange County Medical Society, 552
Piedmont Proctologic Society, 554
Princess Anne County Medical Society, 205
Prince Edward Medical Society, 101
Richmond Academy of Medicine, 49
Roanoke Academy of Medicine, 605
Rockingham County Medical Society, 552
St. Elizabeth's Hospital Ex-Interns, 377
Seaboard Medical Society of Virginia and North Carolina, 54
Shenandoah County Medical Society, 151; 668
Smyth County Medical Society, 50
Southampton County Medical Society, 552
South Atlantic Association of Obstetricians and Gynecologists, 268
Southeastern Allergy Association, 153
Southern Psychiatric Association, 51, 609
Southern Surgical Association, 51
Southwestern Virginia Medical Society, 605
Stuart Circle Hospital Ex-Interns, 269
Tazewell County Medical Society, 101
Tri-State Medical Association of Carolinas and Virginia, 206
Virginia Diabetes Association, 668
Virginia Obstetrical and Gynecological Society, 669
Virginia Orthopedic Society, 669
Virginia Pediatric Society, 669
Virginia Peninsula Academy of Medicine, 495
Virginia Section, American Academy of General Practice, 668
Virginia Radiological Society, 669
Virginia State Board of Nurse Examiners, 52
Virginia State Board of Medical Examiners, 100, 494, 496
Virginia Urological Society, 669
Warwick County Medical Society, 101
Washington County Medical Society, 205
West Virginia State Medical Association, 554
Williamsburg-James City Medical Society, 204
Wise County Medical Society, 151
Wythe-Bland Medical Society, 552

Sodium diets, Experiences with low, 225
Stilbamidine in multiple myeloma with pre-existing renal involvement, Influence of: case reports, 347
Streptomycin in the treatment of tuberculosis, 213
Sulfonamide therapy, A case of anuria during combined, 128
Sulphonamide and antibiotic therapy, Recent advances in, 56
Surgery, Anesthesia in its relationship to, 308
Surgical practice, Protein deficiency in, 511
Syphilis, The problem of the false positive serologic test for, 105
Thacher and his influence on American medicine, James, 384
Therapeutics in chronic disease, Dynamic, 271
Thoracic hour-glass ganglioneuroma, Intra-: case report, 288, 430
Thrombocytopenic purpura following massive hormone therapy in a pregnant diabetic, Acute, 344
Thrombophlebitis sequelae in the lower extremities, The treatment of post-, 594
Transurethral resection and the neurogenic bladder, 243
Traumatic injuries, Hemostatic absorbable oxidized cellulose in, 292
Tuberculosis, Streptomycin in the treatment of, 213; Congenital —: case report, 83
Tularemia with report of two cases, Pulmonary, 130
Tumor, Early diagnosis of brain, 516
Tumors of ovary, Diagnosis and treatment of malignant, 115; Small bowel —, 27
Turner's syndrome (Ovarian agenesis): report of a case with post-mortem findings, 186
Twins, The study of, 547
Uniocular hysterical amaurosis, 135
Urethral resection and the neurogenic bladder, Trans-, 243
Vascular hypertension: etiology, 329; Retinal changes in — —, 330; Medical treatment of — —, 332; Surgical treatment of — —, 334
Venereal disease consultation service, 420; The need for continued treatment and control of — diseases, 638
Virginia, The future of medicine in, 559
Water, Cyanosis in infants from polluted well, 32

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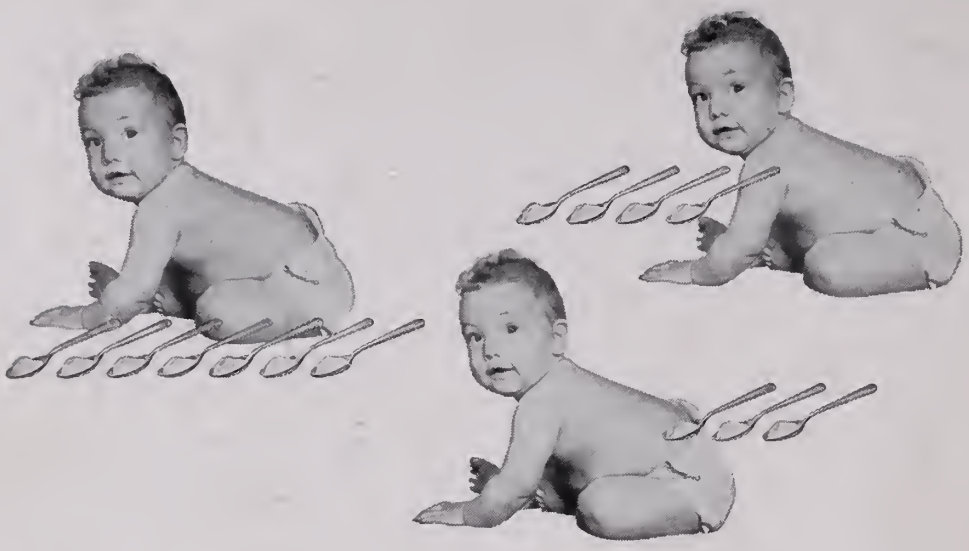

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